THE

Journal of the American Medical Association.

EDITED FOR THE ASSOCIATION BY N. S. DAVIS.

PUBLISHED WEEKLY.

VOL. I. SATURDAY, SEPTEMBER 8, 1883. NO. 9.

ORIGINAL ARTICLES.

A CASE ILLUSTRATING THE SEGMENTAL FEATURE OF GLAUCOMA.

BY H. CULBERTSON, M.D., ASSISTANT SURGEON U. S. ARMY, RETIRED.

[Presented to the Section on Ophthalmology, Otology and Laryngology.]

On the 30th of November, 1878, I was called to see Miss M. M., aged 41 years.

She had been suffering with extreme pain in her eyes for four weeks. The disease began in the left, and one week later in the right eye. The vision failed during a night in each eye, and from the periphery of the visual field, until at its center, in the right eye, she could only discern the light of a candle, and in the left distinguish the outlines of a candle light.

The pain was of the most acute character, aggravated at night, deep-seated in the orbit, and radiated over the brow and in the nasal region. The general system was much depressed—enfeebled—from the suffering endured.

The history showed excessive use of eyes on fine work, and exposure to cold while riding in a carriage, the ill effects of which were increased by wet or damp feet.

Malaria was excluded as a cause.

Tension in each eye = +1. Conjunctival injection was marked. The corneæ were not clouded, for the pupils could be seen dilated, and their margins slightly pigmented and irregular.

The vitreous was clouded, but there were no floculi. The anterior chambers were smaller than normal, and the lens of each eye advanced. There was pigment (limited) upon the anterior lens capsule. The fundus of either eye could be made out with difficulty. The papillæ were, however, clouded, and margins obscured, at points, as well as their vessels. Their arteries were smaller, and veins slightly larger than normal, and these curved over the disc-margins and were lost and appeared again on the papillæ at points.

The cupping of the discs was not marked. There was no pulsation of the arteria centralis.

We decided the pathology of this case to be choroido-retinitis, and the diagnosis acute glaucoma. The prognosis was unfavorable from the very acute character of the disease, and its long duration—four weeks. The treatment advised was iridectomy, and temporarily opium and biniodide of mercury was given until she could be brought to this place.

On the 2d day of December following, after chloro-etherizing (adding a few drops of amyl nitrite), I did an upper iridectomy upon each eye simultaneously, secured conjunctival flaps, and removed about one-fifth of each iris. The latter was so dilated as not to fall into the incisions, but with forceps it was well drawn out, especially at the angles of the corneal wound, and excised as close to the cornea as possible. Some blood was removed from the anterior chambers by stroking the corneæ.

The incisions adapted nicely, and there was no enclavement of the iris. Subsequently each cornea and iris healed rapidly and perfectly. Reaction was favorable from anæsthesia and operation. Within three hours after the operation, two hypodermatics of morphine in the temples, each gr. ⅙, was given to control the pain, which was relieved. On December 3 a mixture of croton and hydrate of chloral and morphine was employed, which relieved the pain and procured sleep. On the 5th of December she suffered no pain, the eyes looked well and clear, and the corneal wounds were united, and the conjuctival incisions cicatrizing.

From this date the improvement was uniform. She was given at intervals iron, quinia, strychnia and fl. ex. jaborandi, and, locally, eserine, as well as the bichloride and the biniodide of mercury.

February 16, 1879, the patient was discharged to return to her home. Then VR = qualitative perception of light only; and VL = ,33 with the aid of a +3Ds glass. The pupils were largely dilated, but regular. The media were not perfectly clear.

The margins of the right disc were uniform, but obscured and unpigmented.

The disc looked slightly white and lacked blood, and there was atrophic cupping of this papilla. The retinal arteries and veins were abnormally small, and no atrophy or pigmentation of the retina was detectable.

In the left eye there was cupping of the disc of the glaucomatous form. Still the vessels could be seen throughout their course on the papilla. The arteries on the disc were normal in size, but the veins slightly large. The color of the papilla was good, and its margins were irregular and pigmented at points. The media of this eye were clear.

On the fifth of July, 1879, with + D.3. spheric VL = 20. The discs were more marked in their outlines, and retinal arteries larger in the left eye, which latter is improving generally.

On the third of October following VR = counting fingers and seeing large objects indistinctly with or without glasses. At the same date — VL., unaided, = 13 and with + D3, spheric V = 50. The range of vision in this eye was 22 to 50 cm. The field of vision L. E. is reduced at the periphery, but least impaired in the upper region of the field, and is more limited in the nasal or temporal regions. The pupils are largely dilated and the media are clear in each eye. The right disc is blue white, with shallow pathological cupping in its area generally; but there is a slight glaucomatous excavation at its lower margin. At its outer margin are pigment deposits. Its margins are defined, but not sharply. Its nerve vessels are very sparse, and its external vascular zone wanting. Its retinal vessels (on the disc) are distinct (excepting at the lower margin where they are curved) but slightly paler and abnormally small. The arteries of the retina are smaller than normal and somewhat veiled in its stroma. The larger vessels have the light, longitudinal streak. The stroma in and about the macula is indistinct as well as that of the retina blurred, and at several points the vessels of the choroid can be seen. The retinal vessels do not stand out boldly. The disc of the left eye at its entire margin presents the glaucomatous aspect, a white color at its central area, but the red outer annulus is seen and several optic nerve vessels. Its margins are distict and there is deposited newly formed pigment generally at its edges. The retinal arteries are lost at its margins to appear again on the expanse of the papilla, but above they can be seen curving in all that region of the disc. The retinal vessels are slightly smaller and lighter in color than normal. The stroma of the retina appears thinner at the periphery, where the choroidal vessels are seen, but the latter are not detectable at the center of the fundus. The details of the fundus are not seen with perfect distinctness, but more plainly than in the right eye. The retinal arteries are fewer in number in the region about the macula, but those delicate branches present run well up to this spot. In the center of the field the vessels are more distinct, but at the periphery fundus they are slightly veiled.

There are no posterior synechia but at one point and that is pigment deposited on the anterior capsule of the lens of the left eye. The papillary border is distinct and is regular in curvature.

June 15, 1882—On examining the eyes to-day, the right eye shows the following details: Atrophy at outside of disc; grey atrophy at the upper and outer quadrant; vessels absent on the outer half of disc, cupping of disc, marked on outer side, and most in upper and outer quadrant; arteries on inside of disc very fine and extend over on retina by several branches.

There is well marked curving of the vessels at the inner and lower parts of disc; only one small vessel, a vein, below on retina; the macula obscured by plastic deposits. The disc is white, except in the upper and outer quadrant it is gray. Can see more light with this eye than formerly. State of L. E: The macula is free from disease; the artery just above it is somewhat obscured; the vessels are incurvated on disc; veins and arteries smaller than normal, but larger than when last examined; at the lower and outer quadrant of disc, there is gray atrophy, with distinct irregular pigmented borders and steep sides, the upper and outer margins of disc pigmented and too well defined.

There is some cupping of both discs, though this is not so marked as when last seen. The pupils are still dilated. In the left eye the entire disc is white, save in the lower and outer quadrant it is gray. The entire margin of this disc is pigmented. VL = 50, with + D 3s.

Remarks.—The most profound effects of this disease in the right eye were at the upper and outer quadrant, and in the left eye in the lower and outer quadrant; the temporal regions were next most invaded in each eye, and the nasal regions were least affected. The periphery, however, of the fundus was generally involved in either eye, a well known diagnostic sign of choroidal disease, especially when the iris was affected, as in this case.

A careful survey of this case, and the appended field charts for light and the primary colors, will, we think, lead to the conclusion that the effects of disease observed in either eye denote the presence of a general as well as a "*segmental*" influence of some form.

The ultimate results in the right eye are atrophy of the retinal structures, the force of the diseased process falling upon the retina as well as upon the choroid, and extending to the centers of the fundus in those membranes and to the papilla. Retino-choroiditis is the typical lesion in this eye.

In the left eye the glancomatous element is more manifest, the inflammation here ending in atrophy of the periphery of the retina, thus limiting the field of vision, and affecting the macula and central region of the retina less, and permitting comparatively fair central vision in this eye.

In the other (right) eye the impress of the disease was greatest at the center of the field, and impaired most central and scarcely less peripheral vision.

The vision failed suddenly and during the night, and the attack began promptly after subjection to the influence of exciting causes, though it is evident that the predisposing cause—over-use of eyes—was in operation for weeks, which latter was aided in its effects by the delicate nervous and somewhat feeble organization of the patient.

There were no uterine complications in the case. Looking at the different pathological results in each eye, the more central lesions in the right, and the more peripheral in the left, another segmental feature is observed.

Again the "segmental feature" is seen in the limited points of gray atrophy shown on each disc, and, in the marked impress of the disease, in certain regions and quadrants of the eyes. The outer half of each fundus suffered most, and it is to be noticed that the great bulk of the ciliary nerves and vessels reach the fundus from this side of the eye-ball.

It does not necessarily follow that because these lesions are situated in the main track of the vessels and nerves of the eye, that the morbid process orig-

inated either within or without the eye-ball in blood-vessels or nerves, for it has been already shown that blood-vessels have an intimate relation with inflammatory processes, and of such a nature as to account for morbid processes spreading in the line of these supplies, and yet not themselves the prime factors of the disease.

The doctrine of Cohneim has been generally abandoned, and the focus of inflammation transferred to the tissues, by such authority as S. Stricker and Spina. In relation to the nerves, these authorities hold that "disease of the vaso-motor centers is certainly adapted to provoke pathological disturbances in peripheral organs, i. e., in the region of distribution of the affected nerves."[1]

It is evident, however, that the lesions must be *found* at the "*nervous centers*" in order to constitute them a *cause* of the reflected affection; and it may well be inquired, Have such been observed in the NERVE "*centers*" in cases of glaucoma?

Is it not true that the lesions in this disease have invariably been found in the eye?

While not attempting to determine the nature of glaucoma, one may be permitted to consider this important subject in reporting a case of this disease.

In looking at the varied symptoms of glaucoma, one is struck with the uniform location of lesions in the eye. Pain may or may not be present in this affection.

Authorities assert that even increased tension is not always observed in simple glaucoma.

So, too, cupping of the optic nerve is not always found in this affection. Again, the cornea may or may not be sensitive, and it is true that individual portions of this membrane may be anæsthetic, and the remainder sensitive. The external appearance of the eye may seem healthy, the media clear, the iris normal or but little congested, and the pupil be dilated scarcely at all. The course of the disease may be so insidious in one eye as to be unsuspected, if the sight of the other is perfect.

Our case presents the lesions of plastic inflammation. It is true that the earlier iridectomy is performed, the less are structural lesions observed (as a general rule in this disease), and the more perfect the cure. Why? Because it is held by not a few authorities that, in the earlier stages of acute glaucoma, the inflammation is of the serous character. In the chronic forms of the disease, however, lesions of nutrition give character to the affection, and such as was found in our case.

It would seem improbable that this affection can be traced to reflex irritation, because the local effects (reflected) are so uniformly confined to particular regions of the eye, and no constant relevant lesions are found, so far as we are aware, in the medulla oblongata or spine, or ganglionic centers, or at any point in nerve branches proceeding from these, whence such irritations have been reflected upon the eye, such as is seen in disease of the ganglia of the posterior roots of the spinal nerves in herpes.

It would seem, then, that one must look to the eye itself as the point of origin of the morbid process in glaucoma.

In our case the cupping of the discs, probably, came late, and grew more distinct afterwards and subsequent to iridectomy, a result of tissue metamorphosis.

There was, too, in our example, iritis, shown by the presence of pigment on the anterior lens-capsule, and the rigid and dilated state of the iris in each eye, as well as by the earlier irregularity in the pupillary margins. The disease seems to have spread from the periphery along the uveal track, involving the iris, and leading to atrophy of the pigment layer of the choroid at its periphery. The profound loss of vision in the right eye leads to the conclusion that the choroiditis extended to, involved and impaired the layer of rods and cones of the retina, and, finally, the lesions in and about the right disk show that the diseased process extended throughout the pigmental layer of the choroid, and involving the precipient layer of the retina, and, to some extent, the layer of nerve-fibers in certain segments of the fundus, extended also to the structures constituting the optic disk itself, and practically abolished vision in this eye.

The tension of the eyes, in this case, was not increased in a marked manner, never rising above +1 in either eye. After the iridectomy, and when the pain had subsided, it became normal and remained so; yet it will be observed, that although the tension was equal in each eye, structural lesions were much greater in the right than in the left eye, which is against the pressure theory as a cause of glaucoma.

The advancement of the lens in this case was not extreme, nor was the anterior chamber reduced greatly in size; which facts, associated with the presence of such metamorphic changes, as developed in the eyes of this patient, are not in favor of the pressure theory as a cause of this disease.

We may again refer to the reflex theory as a cause of glaucoma. It has been claimed that this may be true in this disease, because there is a class of paralysis due to reflex irritations, as, for instance, reflex paraplegia due to disease of the kidneys; and also that diseases of the nerve centers (previously referred to) may induce paralysis and structural lesions of distal parts, as in infantile paralysis.

This may be answered by the inquiry, has it been shown that such lesions do exist, in those afflicted with glaucoma, in the nerves or nerve centers? and, further, why is it that these glaucomic eyes so constantly receive the morbid impress it there is not a diseased entity seated in the eye itself? Why does the eye so generally react upon itself, if it is not primarily at fault in this affection? Why invoke the aid of another organ to account for the phenomena unless compelled to do so?

Can we not learn a lesson in this connection, from Stricker, in his recently developed views of the nature of inflammation? If he has so clearly shown that the prime feature of inflammation, is tissue metamorphosis—of cells, and basis substance—into the amœboid cells, and a return to the embryonic state of the parts involved; and that hyperæmic phenomena are

[1] The International Encycl. Surg., vol. 1, p. 60.

but attendants of the inflammatory process—that the caliber of the blood-vessels is simply regulated by vaso-motor influence; and if we have before us the recognized results of such tissue changes in eyes subject to glaucoma; why may we not admit that the disease is inflammatory in nature, if thus we can account for the phenomena in such cases?

Why seek to cast the failure upon obstructed outlets, when in this affection, these are not always closed? Why make pain, or its effects, a primary factor when it is not always present? Why elevate tension to a prominence above that which causes the tension?

Are we not well taught that glaucoma is but an epiphenomenon, that it is not a unit, and that it is but an array of symptoms based upon a pathological element.

At the risk of repetition, we quote from Stricker[1], whose words are so much more forcible than anything we can say: "This fact of the common course of sensory and vaso-dilator nerves is finally suited to explain the connection between local inflammatory irritation on the one hand, and the inflammatory hyperæmia and pain which accompany the process on the other.

It was formerly supposed that the inflammatory irritation, inasmuch as it implicated the sensory nerves, caused pain by means of their centripetal conduction, and at the same time excited reflex action. Accordingly, it was said, inflammatory hyperæmia is produced by reflex action. But this assumption had no solid foundation. If every inflammatory irritation must first be conducted to the central nervous system, in order to produce hyperæmia (by reflex action) I can not see why this hyperæmia appears just where the irritation acts. If powerful irritation produces reflex action, the reflex movements are not confined to the seat of the irritation. But inflammatory hyperæmia always appears at the seat of irritation only. *Ubi stimulus ibi affluxus* is the old rule, which holds good for weak as well as powerful inflammatory irritation.

It is therefore probable, that inflammatory hyperæmia is a direct local consequence of the local irritation. It is probable that the local irritation exists at the same time, in both the sensory nerves and the vaso-dilators of the implicated region. Whilst the former cause pain by means of centripital conduction, the latter produces a dilation of the results by means of centrifugal conduction."

At page 60 of the same work, this authority continues: "Positive and unequivocal proof that the growth and nutrition of tissues in general are influenced by the central nervous system, has, however, not as yet been furnished. We are, it is true, acquainted with affections of tissues which are due to diseases of the central nervous system; such as acute bed-sores in certain severe central diseases, and progressive muscular atrophy in connection with diseases of the ganglia in the anterior horns of the spinal cord (Lockhart, Clarke, Charcot). Recently, Ad. Jarisch has discovered a very important relation between diseases of the skin, and diseases of the spinal cord, likewise in the region of the anterior horns; the affection in one instance was a case of herpes iris, and in another, a case of pemphigus; though in this, the relationship was less pronounced. I have carefully examined the specimens in question. The disease of the anterior horns of the spinal cord was quite evident. These data, it appears to me, are very important for pathology. But whether we have to deal with centers which directly influence the tissues—that is, with the so-called trophic nerves—or with vaso-mator centers, is not known. Disease of the vaso-motor centers is certainly adapted to provoke pathological disturbances in peripheral organs, *i. e.*, in the region of distribution of the affected nerves." Thus it will be seen, that this able authority admits that diseases of the central nervous system may provoke peripheral diseases by reflex influence through nerves. Yet it is quite evident, that he maintains that such can only be provoked when there are found structural lesions of the nerve centers themselves.

If, therefore, no lesion of such centers are found in glaucoma, he would not, in consonance with his doctrines, attribute this affection to any influence reflected from the nervous centers to the eye. If, then, Mauthner and Stricker do not disagree, why may we not admit that the so-styled glaucoma is, essentially, an inflammation?

Finally, may we not conclude, that so long as the causes inducing the segmental feature of this disease are distinct from the phenomena induced in living blood-vessels and nerves; that, like parallel lines, never approaching, they are distinct in nature, yet related; and that blood-vessels and nerves are but subsidiary to the life and growth of organic cells and basis-substance; and that so long as these latter are intact, inflammation cannot be said to exist.

We may add, that we saw this patient May 6, 1883, and her vision with a + D 1.75 = .50, which is an improvement, because she requires a weaker convex glass to read than at the last examination: (+ D 3.0) then; now D 1.75.

ZANESVILLE, OHIO, May 9, 1883.

[1] The Inter Sys Surg. Ashhurst, Vol. I. p 18.

DISCUSSION.

Dr. Frothingham thought that the changes in the eye were of a cellular character, as shown by the two papers just read.

Dr. Lundy said that in many cases of inflammatory diseases we meet with distension of the eye-ball, more or less permanent, without it being glaucoma, and on the other hand there were cases of glaucoma without distention of the eye-ball.

Dr. Howe, of Buffalo, said that each such contribution to our knowledge of cataract only showed how much remained to be discovered in regard to its etiology. He mentioned a case of soft cataract in which the lenses were apparently exactly in the same condition, and yet under a similar operation the behavior was entirely different in the two. Reference was also made to experiments upon rabbits, in these animals there being a decided tendency to repair after injury of the capsule. With them considerable opacities of the lens will sometimes clear up, so as to leave only a slight cicatrix.

ON THE ELEMENTS OF PROGNOSIS AND OF THERAPEUSIS IN TUBERCULOSIS OF THE LARYNX.

BY J. SOLIS COHEN, M.D., OF PHILADELPHIA.

[Read to the Section on Ophthalmology, Otology, and Laryngology, June, 1883.]

While acknowledging the stern truth that the prognosis is always bad in tuberculosis of the larynx, it may be maintained that the prognosis is less unfavorable in certain groups of cases than in others; and that systematic therapeutic measures are capable of doing much more good in such cases than is generally admitted, even to the establishment of reparative processes in occasional instances.

A case mentioned in the edition of 1879 of a treatise by myself on Diseases of the Throat and Nasal Passages, as having lived more than eight years after the re-establishment of comparative health, is still alive and doing well; and several others that have been under my observation have recovered so far as to resume their occupations, and maintain a tolerable degree of health, and of enjoyment of their impaired lives.

The proportion of such recoveries is exceedingly small, less than one per centum; but the very fact of occasional recovery under treatment affords sufficient satisfaction to indulge the anticipation of considerable increase, as the elements of prognosis are more accurately ascertained and the institution of appropriate remedial agencies more thoroughly determined.

The probable hold upon existence, in cases of tuberculosis of the larynx, or the period to which the probable death of the patient may be protracted, are important subjects to the domestic circle in any individual instance; and any investigation is valuable which may throw light upon this important point in prognosis.

In collating the cases which have occurred in my own practice, I am appreciating the fact that there are certain objective indications, which, studied out and compared with future observations to the same purport, will aid us in estimating the length of days remaining at the disposal of the sufferer, and in prolonging the remnant of his existence by judicious therapeutic measures.

Acute tuberculosis of the larynx is almost certain to terminate fatally at a period varying from six weeks to six months. Some cases terminate still more rapidly, others linger a few weeks or months longer. Recovery is so rare that the accuracy of diagnosis may be fairly questioned in the few instances on record; especially in the face of the fact that the aspect of the disease and its immediate ravages bear very close physical similitude to the progress of acute latent, and tertiary syphilis. So close is this resemblance in many instances, that the test of antisyphilitic medication must be applied before a positive opinion can be pronounced as to the tuberculous or syphilitic character of the case.

Previous to the discrimination of acute tuberculosis of the larynx these cases were regarded as syphilitic, and the failures to cure it were attributed to the profound dyscrasia under which the patient labored. Hence the comparatively recent addition to nomenclature of acute tuberculosis of the larynx. Acute tuberculosis of the larynx is usually indicated by acute laryngitis following exposure to cold and wet, in which deglutition first becomes difficult and subsequently very painful. Intense pain in swallowing is often the only marked characteristic subjective symptom. Swelling of the epiglottis, with progressive ulceration from one or both sides, as revealed by laryngoscopic inspection, account both for the difficulty and pain in deglutition. Pulmonary symptoms of tuberculosis are evident on careful physical exploration of the chest, and serve to confirm the diagnosis of the disease, which steadily progresses as acute tuberculosis, and terminates fatally, as has been mentioned, at a period extending from six weeks to six months; secondary tuberculosis having taken place meanwhile in other organs adjacent and at a distance.

Painful deglutition, therefore, supervening upon an attack of acute laryngitis, and due to tumefaction and ulceration of the epiglottis, and of the fold of tissue uniting the epiglottis to the pharynx, is indicative of acute tuberculosis, with rapidly fatal termination.

The local use of morphia by insufflation, or of morphia and iodoform in powder, presents the most efficient means available of diminishing the pain on deglutition. Before the sedative powder is blown upon the parts they should be thoroughly cleansed by an alkaline douche or spray, to enable the medicinal agent to be applied to the diseased surface, instead of being merely commingled with the secretions which cover it. The solution used most frequently for this purpose in my own practice, consists of five grains of borate of sodium, one drachm of glycerine, and seven drachms of tar water.

Far more frequent than acute tuberculosis of the larynx is the chronic form of the disease, of which we may differentiate several varieties of progressively protracted duration.

The shortest of these varieties becomes engrafted, so to speak, upon that variety of pulmonary tuberculosis characterized by rapid caseation of the pneumonitic foci. It occurs early in the malady, coincidently, perhaps, with the giving way of the pulmonary tissue, and runs its course to a fatal termination in from six to eighteen months.

It may be regarded as a sub-acute tuberculosis of the larynx, or as florid chronic tuberculosis. It is a secondary tuberculosis in the true sense of the term, although the subjective and objective laryngeal symptoms may precede those of the lung disease.

It is indicated by congestive catarrhal laryngitis, associated with localized or catarrhal pneumonitis, and followed by multiple minute ulcerations of the laryngeal mucous membrane. These ulcerations take place most frequently upon the posterior or lower face of the upper or free portion of the epiglottis, but they occur upon other localities also. These ulcerations extend in depth and in periphery, and coalesce when contiguous. Intumescence of the epiglottis gradually supervenes, followed frequently by intumescence of the ventricular bands and of the vocal bands. Similar intumescence takes place, but less frequently, in the inter-arytenoidal and arytenoepiglottic folds. The breathing space is often so se-

riously encroached upon by these tumefactions, that considerable dyspnœa ensues.

Meanwhile existing ulcerations extend, and new ulcerations occur and extend likewise, until in some instances the internal surface of the larynx is almost surrounded by irregular zones of tissue losses, rendering its aspect exceedingly ragged. Fungous granulations rise above the surface of some of these ulcerations, in many cases still further impeding respiration, and interfering with expectoration of the various products of hypersecretion and ulceration. The destructions of tissue, tuberculous and suppurative continue progressively throughout, involving all the component structures including cartilage, portions of which become detached, and become partially expectorated in detritus, fragments, or in masses. The destruction of the epiglottis takes place from above downward as the rule, but occasionally laterally, as in the acute variety proper. Secondary tuberculosis takes place in other organs, adjacent and at a distance.

The differential indication of this form of tuberculosis, in which the tenure of life may be estimated at from six to eighteen months, according to the activity of the process, and the existing pulmonary complication, is to be recognized by the initial multiple minute ulcerations upon the epiglottis, particularly, in the early stages, and the subsequent tumefactions at the anterior portion of the larynx, followed by progressive extensive ulcerations, tuberculous and suppurative. Ulceration limited to the epiglottis indicates much more rapid progress to the fatal issue. Impairment of voice, dyspnœa, and later in the case dysphagia and painful deglutition, are the most characteristic subjective local symptoms.

Much more relief can be afforded by treatment in these cases than in the acute variety previously described. The constitutional treatment required is that adapted to tuberculosis of the lungs, irrespective of the laryngeal complication. Locally, much can be done to afford comfort by keeping the parts as cleansed as possible from products of secretion and ulceration, by alkaline sprays propelled upon the parts at regular intervals. For this purpose the solution of borax in tar water, previously mentioned, may be employed by the patient several times a day, a few drops of the sedative solution of opium being added to relieve pain and repress cough. Inhalations of terebinthinates, creosote or carbolic acid, in spray or in vapor, to follow the cleansing process, are beneficial both for antiseptic and for astringent and slightly stimulating purposes. Insufflations of powdered iodoform propelled directly upon the parts after previous cleansing, are grateful and soothing. The disagreeable odor of iodoform can be tolerably well masked by the addition of a minim of attar of rose to the drachm, or five or more minims of essence of rose geranium.

Harrassing cough from the local irritation of the ragged mucous membrane and the secretions adhering to it, can be much diminished by wearing a light respirator of perforated zinc, or of buckram, or some similar contrivance, in front of which a small fragment of sponge can be confined, upon which five or more minims of terebene, oil of turpentine, creasote, carbolic acid, or eucalyptol may be dropped from time to time, as it evaporates, with the occasional addition of a rather smaller amount of chloroform.

In the earlier stages of dysphagia the preliminary deglutition of a teaspoonful of sweet oil often facilitates the immediate deglutition of nourishment, by coating the parts with protective fluid and by lessening the friction. When extensive ulceration prevents this relief, the best reliance is upon morphia, as in the acute variety.

The more chronic varieties of laryngeal tuberculosis occur in the more torpid cases of pulmonary tuberculosis beginning in localized pneumonias. The larynx does not become involved until the disease has considerably advanced in the lung, and softening is imminent, or is already in progress. These cases last from two to four years on the average, and sometimes much longer.

Pallor of the mucous membrane is perhaps the earliest marked characteristic of this variety. The participation of the larynx is passive, so to speak, rather than active, and the tuberculous process is much slower in its manifestation and its progress.

Little by little the component structures of the borders and interior of the larynx lose their marked outlines and become more and more tumid. The sharp edges of the aryteno-epiglottic folds and other tissues become thickened and rounded off; while circumscribed tumefactions of much more marked character take place at different points literally supplied with normal lymphoid cells.

The supra-arytenoid cartilages and the aryteno-epiglottic folds undergo this tumefaction much more frequently than any other tissue. The epiglottis and the interarytenoid fold are two other prominent points for the process.

The sharp and peculiar outlines of the supra-arytenoid cartilages become transformed into characteristic globose tumors tapering off pear-shaped-like into the aryteno-epiglottic folds, with gradual obliteration of all the lines of demarcation between the folds and the contained cartilages; a transformation so characteristic as to be almost sufficient in itself to indicate pulmonary tuberculosis, aside from investigation of the chest.

In the inter-arytenoid fold a tumid projection gradually develops, sometimes condylomatous, more rarely acuminated, which prevents approximation of the posterior portions of the vocal bands, and thus entails aphonia or great impairment of voice.

The epiglottis increases in thickness to several times its normal dimensions, fails to occlude the larynx in deglutition and incites great care in swallowing, lest particles enter the air-tube.

The tumefaction in the epiglottis and aryteno-epiglottic folds is sometimes increased by collateral œdema, which may be so great as to produce veritable stenosis, threatening asphyxia.

These cases are slow in progress as a rule, unless the patient be the subject of marked cachexia, when the destructive process may ensue as rapidly as in the slower cases of the subacute variety. The tumefactions may remain the only visible objective indica-

tions during the entire malady, but in advanced stages ulcerations are liable to ensue as in the other varieties, and not only at the points mentioned but in other parts of the structures.

Pallor of the mucous membrane of the larynx of a phthisical subject, followed by the circumscribed tumefactions just alluded to, form the chief indications of the slower variety of tuberculosis of the larynx in which the prognosis of a more prolonged existence may be given.

The tardy progress of the morbid process affords better opportunity for beneficial results from therapeutic measures; and their judicious selection at an early period in the disease may not only prolong the life of the patient, but even start him on the road to recovery.

The pallor of the mucous membrane of the larynx, evident as it often is before anæmia is recognized elsewhere, indicates the advisability of the administration of meat as food and iron as medicine. A meat diet requires more or less exercise in the open air, or its substitute. Inhalations of compressed air by some of the methods now in vogue, massage of the limbs, and similar methods promote oxidation of the products of meat digestion, and thus invigorate the patient. Enrichment of the blood by the meat may be supplemented by the administration of iron. Tincture of the chloride of iron in ten minim doses, with fifteen minims of dilute phosphoric acid and a teaspoonful of the best syrup of the hypophosphites, preferably of lime in most cases, if that is at his command, is the prescription most relied upon by myself, given after meals in a tablespoonful of water.

The tumefactions are well painted every two or three days with equal parts of the compound solution of iodine and glycerine, or with a few drops of solution of iodine and of carbolic acid to the ounce, and the parts kept free as possible from secretory products by the alkaline spray already mentioned.

When ulceration takes place, antiseptics are added to the treatment locally and by inhalation.

Compressed air, alkaline sprays, iodine locally, iron internally, animal diet, and as free exposure to the air as practicable, constitute the therapeutic measures which have been followed by the best results in my own hands; and by these means modified or supplemented, as occasion may indicate, with such general measures, hygienic and remedial, as are indicated from time to time, I have reason to believe that the course of certain forms of tuberculosis of the larynx may be retarded in occasional instances to such an extent as to give the patient a chance to recover.

QUESTIONS ON THE ETIOLOGY OF SOME FORMS OF LENTICULAR OPACITY.

BY J. L. THOMPSON, INDIANAPOLIS.

[Presented to the Section on Ophthalmology, Otology and Laryngology, June, 1883.]

In looking over my records of cases for a number of years back, affections of the crystalline lens are found to sustain a relation of 9 per cent, and of these, a very large majority are opacities, idiopathic, and traumatic, mostly the former. In these I have been very much struck by the very large number which have taken place below, as compared with the upper peripheral portion of the lens, and still more surprised at seeing the opacity so often at the lower-inner margin. On first meeting with these, my practice was to inform those who were so affected that they had commencing cataracts, and I usually requested them to call on me from year to year that I might watch their progress toward ripeness, but after observing them for a number of years and seeing no increase in their extent, I soon became more guarded in prognosis and, indeed, began to ask myself whether or not some of them were congenital and similar to the arcus senilis (a very wrong term of course for congenital cases). But remembering that though I had frequently seen the gerontoxon in persons of all ages, in the youthful just as well as in the aged, yet the peculiar opacity of which I speak rarely ever came under my notice in persons under forty, so it seemed to be a senile change. I was still more convinced of this by witnessing a case almost at its very inception in a lady eighty years of age, whose eye I had examined several times before the opacity made its appearance. She first came to consult me on account of dimness of vision which she feared was caused by cataract, indeed she was morbidly sensitive on the subject of cataract. I examined her under a mydriatic and found each lens perfectly clear (or as clear as one ever finds it in an elderly person), with not the least trace of opacity in either; her dimness of vision being the result of myopia, with hyperæmia of the choroid and retina. I informed her of these facts, and in answer to her questions upon the subject, told her that in all human probability she would never be troubled with cataract. In just one year from that date she again called upon me, when an opacity was readily seen in each lens downwards and inwards, greater in the left than in the right eye. I saw her once or twice a year until she died, always comparing her condition with the pencil sketch taken when she was first examined, and there never was a particle of increase in the breadth or depth of the stippling. All through my case book are these opacities to be seen, and the uniformity of their position viz. at the lower inner margin of the lens is very striking. It certainly must be more than simple coincidence that so many of these cases should have occurred in my patients; and yet in conversing with many of my acquaintance who practice in this department of the field of medicine, they seem not to have had their attention called especially to this feature of it; nor do I remember having seen it mentioned in any of the eye literature which has fallen under my notice. 'Tis true one often reads of small opacities forming a circle around the periphery of the lens in elderly persons, which Dr. De Wecker looks upon as being "clearly connected with the movements of shrinkage in the nucleus, and an accompanying separation of the fibers in the portion corresponding to the opaque ring, while the fibers themselves have undergone no appreciable changes." But in such cases the upper portions are as often, it seems, affected as are the lower; and yet as far as my memory serves

and my books show (I keep a pencil sketch of all intraocular affections) these opacities occur at least twenty times in the lower, to one in the upper, and ten times in the lower inner to one in the lower outer portion. Occasionally one meets with them in both inner and outer lower portions of the same lens, but the inner are invariably more pronounced than are the outer; another remarkable peculiarity is, that they are often met with almost exactly alike in each eye.

Indeed these cases are so numerous that they often come to me in pairs, as my books show on several pages, but this is a coincidence which often takes place in the practice of us all. Many of these patients have I seen, from time to time, for years afterwards and they nearly all seemed to remain as when first examined. It is evident that they widely differ from the congenital gerontoxon which has, or seems to have the impression of the zonula upon it. That gravitation is an important factor in the position of these clouds there can be no doubt, and the fact of their sudden appearance and their remaining ever afterwards just as when first seen, shows that some temporary change in the nutrition of the tissues similar to those which follow rheumatic, gouty, and other inflammations which are often followed by degenerative deposits, must obtain in these cases also. Were they simply fatty degenerations of the fibrillæ of the lens, one would certainly meet with them as frequently in the upper as in the lower peripheral portions.

OPACITIES OCCURRING DURING CHOROIDAL INFLAMMATION.

Doubtless all present can recall one or more cases of opacity of the lens occurring very suddenly during the treatment of choroido-hyalitis with floating bodies in the vitreous chamber. A typical case of this kind came under my notice in a Doctor E. aged 26, single, who consulted me some years ago on account of the above named floating bodies in the vitreous humor of the left eye, which he informed me had existed about four years. When I first examined him the eye was so filled with these floating bodies as to render the fundus very indistinct in some places, and totally so in others, thereby reducing vision to $\frac{20}{C.C.}$ He said that since he first discovered them he had been better and worse; that occasionally they would partially disappear, and the vision would slightly improve, but that they never left entirely, nor did vision ever reach the normal acuity. The right never participated in this abnormal process, it being entirely confined to the left eye. His health, he said, had always been good, that he never, so far as he was aware, had been troubled with any form of heart disease, and was confident that he never had syphilis. He looked delicate, tired and under-tone, but he had been taking large doses of iodide of potassium, which may have caused this appearance. I placed him on the use of jaborandi, used artificial heat and counter-irritation occasionally, but without good effect. He called on me very often, but the eye remained apparently about the same, until on one occasion the anterior chamber was found to be so shallow that the iris rested against the cornea. Prior to this time the lens had been as clear as one ever sees it, but in five days' time it became thoroughly opaque throughout its whole extent. For a period of nine months he had no visible anterior chamber, but at the end of that time it was re-established, and the tension, which was formerly — 1 became normal. At this date his field of vision is good, he sees one's hand between him and the light, and were one examining him as to his prospects for a cataract extraction without having a thorough history of his former condition it would be pronounced a very promising case.

A very similar one to the above occurred in a patient aged 50, who consulted me for a dimness of vision which I found to be from choroido-hyalitis with floating bodies in the vitrious. "Is it catharack, docthur?" was the question. "No;" and I took great pains to convince him that it was nothing like cataract. Again in two weeks did he call, with the same question, with his eye in the same condition; but in one week more he had a well-pronounced opacity of the lens, which on former examinations was as clear as ever it is seen. "And do you tell me that it isn't catharack?" was the first question with which he greeted me, he having been to another physician in the interval of his visits to me. What could I say to an ignorant patient under the circumstances? Such cases are exceedingly trying, as well as interesting. What a help it would be to one did he know something more concerning their etiology, that he might know just when and in what cases to predict them. Many, with choroidal troubles similar in all appearance to the above, will go on for years, becoming better and worse until vision equals simple perception of light and yet the lens will remain clear, while in others apparently no worse nor even so severe, cataract will be developed almost at the very inception of the malady. In all probability these cases of former choroidal inflammation often cause our smoothest and best performed cataract operations to result disastrously. Diabetes, again, is a well-known cause of rapid opacity of the crystalline. Several cases have come under my care in which the person has been able to read the newspaper readily ten days before the date of his coming and yet an examination has revealed the fact of a completely opaque lens in each eye. Other cases, again, often go on for years with urine of the same specific gravity, and all other conditions apparently similar, and yet no sign of lenticular opacity ever takes place.

OPACITIES FOLLOWING OPERATIONS AND WOUNDS.

How common it is to meet with an opacity of the lens very soon after an operation for artificial pupil in cases of complete synechia posterior. The lens remains clear for some time after the operation, except a few spots of pigment remaining where the iris was formerly adherent, but in a few weeks cataract is made manifest, so it is often after an iridectomy for glaucoma, where we are positive that neither knife nor forceps ever touched the lens capsule. The question arises, in what way or manner does the operation so interfere with the nutrition of the lens as to cause its rapid degeneration in one case, while in ninety-nine other similar ones no such result follows an apparently identical operation?

Opacities resulting from foreign bodies entering

into or passing through the lens are, as you are all aware, by no means infrequent. In a few of these the opaque spot has remained partial—sometimes even it becomes smaller—years afterward than just after the wound. Especially is this so where a very fine body jams through into the vitreous with great force, while wounds from pins, or bodies, be they never so small, which have been passed only just through the anterior capsule and been withdrawn are almost invariably followed by complete opacity sooner or later. The following unique case is, however, an exception: Chas. Lutz, aged 22, residence Terre Haute, Ind., was sent to me by his physician on account of an injury to the right eye by a piece of percussion cap three days before. On examination I found that it had passed through the lower part of the cornea and iris into or through the lens, the last named body heing quite opaque throughout—at least its lower two-thirds.

As he could not remain under my care I wrote to his physician, suggesting ice, atropine, and leeches if the inflammation ran high, and requested that he be sent down if much pain and tenderness in ciliary region became manifest. I heard that he was doing well two months subsequently, and did not again hear from him until I met with Dr. J. P. Farrell, of Terre Haute, about three weeks ago who informed me of the following very remarkable behavior of the case. When the doctor returned to Terre Haute from Europe the patient immediately called upon him, when a projection of the iris was visible, looking as if a body was lodged behind it. Again, in a few weeks, some kind of a foreign body was seen in the lower part of the aqueous chamber. Again in a few weeks, it was seen in the tissue of the cornea, and, lastly, the young man accosted the doctor on the street to inform him that he had the foreign body at home, he having picked it from the eye. At my request Dr. Farrell kindly wrote me the following letter on June the 1st inst.:

"* * * I found the eye quiet, presenting a ring-shaped, or, rather, semicircular white opacity at the lower and inner quadrant of the cornea. In the space included between this semi-circle and the corneal border there is a dark point evidently due to adhesion of iris to inner corneal surface. Pupil eccentric and pear-shaped, due to ant. synechia. Lens clear, with the exception of the slight degree of opacity along a cicatricial line which is seen in the ant. capsule V $=\frac{15}{L}$. The eye is entirely quiet and has given him no trouble, though actively engaged at his work, that of a nail-feeder, which requires close attention.

"The foreign body, I may add, is about 2 mm. square, being of the thickness of good writing paper. Further, I wish to say, that running from the situation of the cicatrix on the capsule, to the point of union of the synechia to the cornea, is a white band to which the lacerated iris is attached. This band I once thought was the lens capsule, but yesterday I came to the conclusion that it is not.

"Signed, J. P. FARRELL."

The above questions have been of deep interest to me, and doubtless similar ones have often agitated the minds of many others, and, as no better opportunity will ever offer for an interchange of views and the relating of personal experiences upon the above questions, I therefore give it as my reason for bringing the subject before you on this occasion.

DISCUSSION.

Dr. Noyes, of New York, said he had seen similar cases quite frequently, and had them divided into two classes—those accompanying myopia and being of a molecular form, and those in which the opacity is striated and caused by choroidal retinitis. He thought the opacity was due to impaired nutrition of the hexagonal epithelium, and that it required years for its development.

Dr. Frothingham said that the paper was the result of carefully kept records, and if every one would take the trouble to keep such records, many points about which we are still in the dark might thereby be cleared up.

Dr. Thompson, in closing the discussion, said that he had nothing further to add except that he had found his records of cases of great advantage to him.

THE ACTION OF NITRATE OF SILVER UPON THE MUCOUS MEMBRANE OF THE THROAT AND NOSE.

BY CARL SEILER, M.D., OF PHILADELPHIA.

[Read to the Section on Ophthalmology, Otology, and Laryngology.]

It is not my intention to present an exhaustive essay to the Section, but simply to make a few remarks concerning the action of the silver salt upon the mucous membrane, and to record some observations made by myself, with the hope of giving rise to a discussion on this interesting subject.

We are all familiar with the popular notion that nitrate of silver is a caustic, and is held in abhorrence by the patients, and used sparingly and in weak solutions by the physician in dealing with inflammations of the mucous membrane of the throat and nose. It may, therefore, be startling to you when I make the statement, the conclusion arrived at from clinical experience and microscopical examination of the tissue, that nitrate of silver, solid or in solution, is not a caustic—*i. e.*, it does not destroy the epithelial covering, and its action is different with the strength of solution used. The action of the solid stick or super-saturated solution upon the undenuded mucous membrane is first a combination of part of the silver with the albumen, mucine, and chlorides contained in the secretion of the immediate neighborhood of the spot touched, and the formation of a thick, tenacious, yellowish white pellicle adhering tightly to the epithelial covering. The surplus of silver which is not thus converted penetrates the interstices of the epithelium and becoming reduced to the oxide of silver or deposited as very fine granules of oxide of silver which act as foreign bodies and give rise to congestion and inflammation in their immediate neighborhood, which continues with more or less severity until the tissues

have become accustomed to the presence of the foreign body. The pelicle formed, although at first tightly adhered to the surface, soon becomes loosened as the increased blood supply hastens cell death, and is pushed off by the exfoliation of the upper layer of epithelial cells, leaving underneath it a healthy surface covered by epithelial cells. A section carried through the mucous membrane which has been acted upon by the stick or a super-saturated solution does not show any cell disintegration by the drug.

Clinically we observe that the solid stick or a super-saturated solution does not produce much pain on the healthy mucous membrane, but acts as a localized stimulant and, through the formation of the pelicle, as a protective. When applied, on the other hand, to a surface denuded of its epithelial covering the solid nitrate of silver, by combining with the albumen and protein of the granular cells, forms a similar pellicle as is seen on the healthy surface, but melts the upper layer of the cells. It thus again acts as a protective and local stimulant exciting healthy granulation and the reformation of the epithelial covering.

Experiments carried on with solutions of different strengths, such as 250, 200, 180, 120, 60, 40, 20, and 10 grs. to the ounce of water, gave much the same results, when sections were made and examined under the microscope as were noted when the solid stick or a super-saturated solution was used, except that with the decreasing strength of solution, a decrease in the thickness and firmness of the pellicle, and a diminution in the number of granules of oxide of silver were noticed. The experiments were made on rabbits and dogs at the pathological laboratory of the University of Pennsylvania, and the silver salt was allowed to act upon the mucous membrane from 10 to 20 minutes, except in the case of the experiments with the solid nitrate of silver, when, in some instances, 62 and 24 hours were allowed to elapse before the animal was killed and the tissue prepared for section. The sections were made for me by my friend Mr. ——, of the University.

The clinical observations with the different strengths of solution extend over a number of years, and were made on myself as well as a large number of patients, and may be summed up in a few words.

Solutions of from 250–120 grs. strength act similarly to the solid stick—that is, little or no pain is felt on contact; a thick pellicle formed, and the localized inflammation is of short duration. Solutions from 120–60 grs. produce no pain whatever; on the contrary, act as local anæsthetics. When applied to an inflamed surface they produce no perceptible localized inflammation, but stimulate glandular secretion. The pellicle formed is but slightly adhered, and can be pulled off after a few hours. They also act as powerful astringents, and frequently will cut short an acute inflammation of the mucous membrane when they are applied before inflammatory infiltration into the tissue has occurred—that is, within twenty-four hours from the onset of the inflammation.

Solutions of less than 60 grs. produce the more pain the weaker they are, which is also more and more lasting, so that the anæsthetic and astringent action diminish on an equal ratio with the strength of the solution, while the stimulant and irritant action increases as the solution becomes weaker. The protective quality of the pellicle, which, however, is formed even with a 10-gr. solution, and which probably has given rise to the belief that the silver salt is a caustic by having been mistaken for an eschar, diminishes also with the strength of the solution. The glandular secretions are materially increased by these weak solutions. Thus it will be seen that nitrate of silver, like many other drugs, should not be used indiscriminately, but that the strength of the solution should be properly gauged by the action desired. For if we want an astringent, sedative and protective action, we should not use a solution of less than 60 grs., while, on the other hand, if we want a lasting stimulant and irritating action, the weaker solutions are indicated. Also if we want to increase the glandular secretion or want to induce absorption of old inflammatory deposits, the irritant action of the weak solutions is of great value. When a long-continued irritating and stimulating action is desired, such as is necessary in atrophic nasal catarrh, for instance, I have found that solid nitrate of silver, the fine powder highly diluted with starch powder, is preferable to a solution, since the fine granules of the silver salt in contact with the atrophic mucous membrane set up points of inflammation and increased blood supply all over the mucous membrane, thus stimulating the few remaining glands to increased action which in time becomes permanent.

Want of time and opportunity have prevented me from making observations on the action of the silver salt on the mucous membrane of the eye, but I have no doubt that the action is similar, if not the same, except that on account of the large amount of chlorides in the secretion of the lacrymal gland a larger proportion of the nitrate is at once converted into the inert and insoluable chloride of silver.

DISCUSSION.

Dr. Jarvis fully agreed with Dr. Seiler's views; and Dr. Roe said he also had found, like the author of the paper, that a solution of from 60 to 120 grains to the ℥j of water will almost invariably cut short an acute tonsillitis.

Dr. L. Turnbull said he had seen solid nitrate of silver produce sores upon the skin, and that he was in the habit of destroying polyps with the solid stick.

Dr. Conner, of Detroit, said that in the main he agreed with Dr. Seiler, but had seen a case in which serious sloughing of the tissues around the eye had followed the application of solid nitrate of silver. He thought a great deal depended upon the length of time that the drug was allowed to act upon the tissues. All other speakers agreed with Dr. Seiler, that nitrate of silver was a most valuable drug if properly used, but disagreed in regard to the non-caustic action of the solid stick.

Dr. Seiler, in closing the discusison, said that he could explain the production of sores and sloughs by nitrate of silver, which he had frequently seen. They were caused, not by the destruction of the epithelium,

but by the localized inflammation due to the irritant action of the granules of oxide of silver which are deposited in the dermal and subdermal tissue, thus hastening cell death and producing ulceration, as any other localized inflammation may do.

FOUR CASES OF EYE DISEASE FOLLLOWING BRAIN DISEASE.

BY HENRY G. CORNWELL, M.D., COLUMBUS, O., PROFESSOR OF OPHTHALMOLOGY AND OTOLOGY IN STARLING MEDICAL COLLEGE.

[Read in the Section on Ophthalmology, Otology and Laryngology, June, 1883.]

HEMIANOPSIA HOMONYMA DEXTRALIS AFTER APOPLEXY.

Mrs. S., aged 65, an intelligent lady of Columbus, was sent to me by Dr. Fullerton, her family physician, February 1, 1883, for advice concerning a defect of vision, which had made its appearance three months before. The previous history of her case is as follows:

Two years before she had an attack of apoplexy, was comatose for twelve hours, and remained hæmiphlegic on the left side for nine months, improving gradually until she entirely recovered without sequellæ from her illness, and enjoyed good health for fourteen months. One month before I saw her she was about to call on some of her friends, and as she ascended the steps her vision became suddenly obscured, and on entering the house she observed that she could only see the left half of objects toward which her eyes were directed. Her mental faculties remained clear, and she was absolutely free from all other symptoms of intra-cranial disease. Her hemianopsia (it being right-sided) prevented her from reading, a thing which distressed her exceedingly. On examination I found central vision $\frac{xx}{20}$, or normal. Entire absence of all visual impressions, except for light over the right half of the visual field, the line of demarcation being sharply defined and extending to the macula lutea. Visual and color sense normal over the left half. Ophthalmoscopic evidence negative. Her condition remains, after three months, unchanged.

My view of the pathological condition in this case is, that at the time of the sudden appearance of the hemianopsia the patient had a second hæmorrhage of slight extent, doubtless into the occipital lobe of the left hemisphere, the injury to the brain substance being only sufficient to produce the visual defect.

A CASE OF MONOCULAR OPTIC NEURITIS, FROM BRAIN DISEASE.

J. H., æt. 26, of Mt. Vernon, O., a machinist, single, visited me October 20, 1882, on account of a failure of vision in the right eye of three weeks duration. From his history he had evidently contracted syphilis five years before. On examination, the vision of the right eye was reduced so that he could see only to count fingers at five feet. He had also paralysis of the third nerve on the same side, producing ptosis, a dilated and fixed pupil, and divergent strabismus. The sense of smell was wholly gone on that side. The patient also complained of severe frontal headache, and became at times very giddy and faint. The ophthalmoscope revealed a violent monocular right-sided optic neuritis, the swelling amounting to three dioptrics. Left eye vision and ophthalmoscopic appearances normal. The bichloride of mercury and iodide of potassium were given in large doses for some weeks, and improvement followed so far that some movement of the globe inward could be obtained. Atrophy of the optic nerve succeeded the neuritis, and vision was reduced to perception of light. No further improvement followed treatment.

The eye-condition in this case evidently was due to an intra-cranial gummous formation at the sphenoidal fissure and optic foramen on the right side.

PARALYSIS OF SIX OF THE CRANIAL NERVES FROM BASILAR MENINGITIS.

J. D., æt. 37, a dentist of Columbus, visited me May 18, 1883. During the war, he received a flesh wound in the right forearm, and was left uncared for in a vacant house for 48 hours; the nights were very cold. Following this he had swamp-fever, and subsequently became seriously ill with some form of brain disease. His recovery was complete, except so far as his eyes were concerned, they having remained unchanged since his convalescence, except that his visual power is monthly decreasing.

Status præséns:—Patient in an advanced stage of pulmonary consumption; no history of syphilis. Absolute immobility of both eyeballs, and double ptosis, from paralysis of the third, fourth and sixth pairs of cranial nerves. Paralysis of the facial on both sides; some impairment of cutaneous sensibility over the face. Vision, ability to count fingers at five feet. The optic nerves in an advanced stage of secondary atrophy; the irides and ciliary muscles not paralyzed. He has never had any form of general paralysis, and his intelligence has not been impaired since his illness.

This case exhibits paralysis of six pairs of the cranial nerves. I regard the condition as having been due to a basilar meningitis which succeeded the intermittent fever.

A CASE OF CHOKED DISC ASSOCIATED WITH A TUBERCULAR TUMOR IN THE CEREBELLUM.

On the first of April, 1882, I was invited by Dr. Buckner, of Youngstown, O., to make an ophthalmoscopic examination in a case of brain disease, the previous history of which is as follows:

The patient, H. W., æt. 26, a locomotive engineer, had suffered for some weeks with intense frontal headache and lancinating pains shooting through the head from the occiput to the vertex. He had frequent attacks of giddiness and faintness, and on several occasions had convulsions after running. He had also become totally deaf on the left side. His vision was $\frac{xv}{20}$, both eyes. No marked change in the visual field. Ophthalmoscope revealed choked disc; the swelling of the heads of the nerves measured five dioptrics. Rapping on the head did not give rise to pain. The tuning-fork was not heard on the left side. Brain tumor was diagnosed, and unfavorable prognosis given. No evidence of syphilis

was obtained. Bichloride of mercury and iodide of potassium were prescribed.

I saw him a month later, and he had become wholly blind, and had had frequent convulsions in bed. During the next month his convulsive attacks appeared daily, and he died comatose.

At the autopsy, in the left lobe of the cerebellum an abscess was found, containing about a teaspoonful of pus, and close to it a tumor the size of a marble, in the center of which was a calcareous deposit the size of a hemp-seed. The tumor was on examination found to be of the tubercular variety.

SYMPTOMATOLOGY IN INFANTS.

BY WILLIAM B. ATKINSON, M.D., LECTURER ON DISEASES OF CHILDREN, AT JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

By many persons, the study of disease in infants is regarded as peculiarly difficult, because of the absence of speech by which to indicate the presence and location of certain symptoms. The late Prof. C. D. Meigs, on the contrary, was wont to felicitate himself on this as an advantage. He would say, "An infant never tells a lie." It cannot imitate the young lady who assures the doctor that she is dying, or suffering unspeakable torments, when the next hour she is ready to whirl till daylight in the dance, or fill her stomach with a *melange* as curious as it is hurtful.

In the investigation of all forms of disease, whether in children or in adults, we are generally too apt to jump at a conclusion, and make a diagnosis which would often be different were it prepared with less haste, and with the aid of other factors. Careful, guarded observation should ever be the rule. The whole ground should be accurately surveyed; each symptom, each point compared, and the result will prove more satisfactory than is so frequently the case where, after a few hurried questions addressed to a stupid or careless nurse, and an equally careless examination of the infant, the physician supposes what is wrong, and writes a prescription which may be harmless; often is useless. It would be better to leave the child to nature, and give a placebo to satisfy and occupy the nurse, who will be sure to administer some of her own foolish mixtures if not otherwise employed.

At the outset, the most important matter to the physician is a thorough knowledge of the infant as a healthy being, that he may have a means of comparison by which to judge as to the presence or absence of disease. It is seldom, however, that these points are considered, and more rarely are they studied.

In this connection, I would refer to my lecture entitled "The Conditions of Life in a Healthy Infant."

Additional force is given to these remarks by my observing, on a recent occasion, the great want of knowledge in the profession as to the commonest points in child-life, and a learned authority gives a striking example of the same, where, at a criminal trial, the experts summoned could only give the most vague and general ideas as to the quantity of food required for a healthy child at a given age.

Starting, then, with a well-grounded knowledge of the child as it should be in health, we make a careful examination of the little one at every point. Its history and its surroundings must be equally inquired into, that we may thus be enabled to eliminate any points tending to confuse in grouping the results of these inquiries.

In such an examination, we are largely, if not wholly dependent upon the objective symptoms.

We must learn from the attitudes; the movements; the cries; the skin; as well as the pulse, respiration and temperature. In fact, the last three are least to be depended upon.

In health, the attitude of a young child should be a natural, easy one, with no appearance of strain in any of its motions. Here, however, is room for error, unless we possess a knowledge of the special case which we are investigating, as children are often observed to assume in health an attitude simulating that of disease. Hence, a peculiar or apparently unnatural position should not cause alarm unless associated with other positive symptoms. We have frequently seen infants sleeping with the head drawn far back, similar to the position of one suffering from cerebro-spinal fever. When it is observed that the movement of any part causes pain or uneasiness, that point should demand the closest investigation, and at the same time a search should be made as to the occurrence of any causes likely to have produced such a result.

Perhaps the first point which attracts the attention is the face of the infant. While we cannot fully agree with some authors that there is such a close relation between the expression of the countenance and the seat of disease, yet we know that much is to be learned here.

Pain is at once shown by the face.

Corrugation of the brow, twitching of the corners of the mouth, tremulous movements of the eye-lids, are generally prodromes of convulsions, and when associated with other symptoms should lead to the belief in the presence or cerebral trouble.

Pallor of the countenance almost invariably is present in intestinal diseases, and usually accompanied by a fretful, peevish look. This pallor, with emaciation of the features, is seen in all diarrhœal affections. When the exhaustion is great, as in cholera infantum, these symptoms are present to a marked extent, as seen in those sudden attacks where, within twenty-four hours or even less, the infant resembles a little old person, and is so altered that those around fail to recognize a familiar feature. Here we have the hollow cheek, the sunken eye with half-closed lid, the waxy, cadaverous look, a dark circle surrounding the mouth, deep blue circular lines beneath the eyes, the pinched nose, the mouth half open, disclosing the tongue, which lies parched in its cavity, the cold and feeble breath, all witnessing that great exhaustion preceding dissolution.

When the face is flushed, hot, swollen, we find acute brain disease. When the face assumes a dusky hue there is from some cause imperfect æration of the blood, as in congestion or other lung trouble. In cases of inflamed lung the hue is brighter, and asso-

ciated with difficult breathing, as specially shown by the rapid dilatation of the alæ nasi, and the efforts at inhalation.

In the very young, the infant that has attained to but few days or hours, deep blueness of the face and general surface indicates imperfect action of the heart and its appendages. This rarely fails to be seen from birth, is usually increased by any effort or excitement, and must be regarded as a very grave symptom.

Discoloration of the skin should always be examined with care, lest an error be made as in icterus. In very many infants more or less yellowness of the whole surface appears during the first few days, and as readily disappears. This should be borne in mind.

Again, the attack of strophulus, or gum, as it is called, rarely fails to occur within the first week or two, and has even been taken as the evidence of an attack of an acute eruptive fever. Such errors are constantly seen, as where the bites of insects have been taken for an eruption. In fact many ridiculous instances might be mentioned.

Pain is shown by a sudden contraction of the countenance; when more severe, accompanied by a sharp cry or moan during sleep, and when associated with the drawing up of the knees, will indicate that the seat of the pain is in the abdomen. In such instances the face becomes suddenly pale, with a whitish or bluish circle around the mouth.

When the infant has pain in the head, it is indicated by sudden and more or less constant contraction of the brows. This may be neuralgic, and then usually intermittent; but when protracted it should be regarded as of a grave import, as showing the presence of meningeal or cerebral disease.

The eyes should especially attract attention. Strabismus, when not habitual, as the congenital form, or that resulting from previous diseases, by itself indicates chronic meningeal disease, and is always an unfavorable symptom. A turning in of the eyes almost invariably occurs prior to a convulsive attack, and generally soon disappears after the cause is removed. Foreign bodies in the alimentary tract, as indigestible matters, masses of worms, scybalous masses, constantly cause this symptom, and by a continuance of the irritation produce convulsions.

The pupil of the eye is not so valuable as a diagnostic aid, because of the constant radiations to which it is subject. Irregularity of the pupils—one being contracted, the other dilated—would indicate a lesion at the base of the brain. Fixed dilatation or contraction are to be regarded when other disease is present, such as alimentary trouble, as showing the involvment of the brain. In such cases care must be taken to ascertain whether the infant has been habituated to the use of opium. Perhaps this is one of the most important questions that can be asked, and should always form a part of the preliminary examinations when obtaining the history of the child. In inflammation of the brain there is usually, at first, great contraction of the pupils; as the attack progresses dilatation follows, with complete insensibility to light as the end approaches.

Photophobia is seen in measles, more rarely in scarlet fever, and small-pox. When this symptom is combined with inflamed conjunctiva, and other symptoms are wanting, the disease is at once localized as a conjunctivitis. A special diagnostic is the watery eye in measles, and the bright, glistening eye in scarlet fever.

The gestures of an infant soon become an important feature. At a very early age the baby is attracted by the light and will follow it in its course. Soon it notices its fingers and things which are put into its hands, and while children are remarkably different as to their progress in such matters, yet stolid indifference to its surroundings should awaken inquiry as to its condition. An infant that has shown evidence of ability to notice, and then becomes utterly indifferent, is undoubtedly out of health. Thus the debility incident to the approach of chronic disease is marked by that languor which prevents the infant from holding up its head or sitting up unsupported.

In chronic hydrocephalus the head soon appears to be too heavy to be held upright, and the child assumes the recumbent position, or one in which the head is supported other than by its own muscular efforts.

Irregular or unnatural movements of the limbs indicate the approach of convulsion, or an attack of chorea, which, by the way, is of extremely rare occurrence in infants.

Paralysis may be diagnosed when the infant fails to move a limb in response to tickling or other irritation, or refuses to grasp an object with either hand, or where it constantly moves one leg or arm while the other remains motionless.

Earache should always be suspected when the infant pulls at its ear or constantly applies its hand to that part, or rubs the head against the pillow on that side. When, in addition, it screams at intervals, and applies its hand as above, there is undoubtedly neuralgia or otitis.

Picking or rubbing the nose has long been regarded as an indication of intestinal worms, but this symptom is also seen in nearly all forms of alimentary trouble.

As a precurser of convulsive attacks, we rarely fail to see a turning in of the thumbs and great toes. The thumbs are forcibly turned into the palms and grasped by the other fingers; and the toes are often seen as if endeavoring to imitate this movement.

The actions of the child while at the breast are especially to be noticed. When it takes the nipple eagerly draws a few times and lets go with a scream, we should examine for sore mouth or throat; for closure of the nostrils, as by coryza, which interferes with the breathing while sucking; or even for inability to obtain the milk because of closure of the tubes, or an absence of the supply. Frequently tongue-tie is accused of causing the action, but when an infant can protrude its tongue so as to extend beyond the vermillion border of the lip there is no want of ability to grasp the nipple.

The sleep should be calm. Very profound slumber may be due to an over-loaded stomach, rare with the very young, as they usually relieve this difficulty by ejecting the surplus; or to an over-

loaded brain, in which case other symptoms will aid in the diagnosis, as where coma, or an approach thereto, occurs during brain disease, etc.

In bowel affections, the sleep is short, much disturbed, and the child awakes in a peevish, unrefreshed condition.

The voice even in the very young is usually a positive aid in diagnosis. The cry of hunger is loud and continued until the wants are supplied. That of fright is repeated, breaking forth again and again after the efforts to quiet it, and the child shows a wild, perturbed look. That of passion is shrill and continuous, accompanied with gestures which cannot be mistaken, but point most positively to the cause and its remedy.

Acute pain is always shown by shrill screams which seem uncontrollable. Very piercing cries accompany acute brain affections; when intermittent they are usually caused by neuralgia, and particularly that of the ear. The cry of the infant, exhausted as by cholera infantum, is at times sharp, querulous, and then a low moaning as though its strength was gone. In pneumonia, pleurisy, or imperfect expansion of the lungs the cry is low, moaning. In hydrocephalus, we have the child awaking partially with a shrill, piercing note and falling back into a semi-comatose condition. A muffled or hoarse cry is heard where false membranes or effusion have formed in the throat. The peculiar bark of croup is readily recognized.

Temperature requires but little change to indicate disease. A degree below the normal accompanies exhaustion, sinking, the approach of death. Very high temperature is almost invariably one of the earliest symptoms of the eruptive fevers, particularly scarlatina. In this disease the hand, when held for a time, seems to become hotter and more dry. In all attacks of fever or inflammation, the temperature is high, and the higher its range, the more grave is the attack. In blood poisoning, as diphtheria, the temperature, high at the outset, soon sinks, and when below the normal a fatal result must be anticipated. The importance of the clinical thermometer in diseases of the young cannot be over-estimated.

But little reliance can be placed upon the respiration as a means of diagnosis in infants. At all times it is very irregular, the most marked changes occurring from the most trifling causes. It is remarkably slow in cerebral affections, occasionally giving the impression as though it were about to cease entirely. Or it may become intermittent. These symptoms occur in all diseases where there is exhaustion. In inflammation of the lungs and their appendages the respiration is accelerated, even panting, and is performed with more or less difficulty, as the result of the pain it causes. A most unfavorable symptom is that mode of respiration where the air is drawn in as with an effort, with great dilatation of the nostrils, wide opening of the mouth as though to afford room for the influx of the air. Yawning, when not seen in cases of great debility, is usually a precursor of an intermittent attack. In infants this symptom is often followed by a convulsion, which frequently recurs at a fixed hour, and thus marks an intermittent. Rigor is almost invariably substituted by convulsion in young children.

The cough affords additional information; in spasmodic croup it is loud, ringing, barking; in membranous croup it is harsh, muffled; painful, and with an effort at suppression in pneumonia, pleurisy, etc.; in spasms and long-continued in pertussis.

Sneezing occurring in rapid succession generally marks the commencement of measles.

The pulse is so readily influenced by slight causes that, like the respiration, it is of little value as a diagnostic sign. To make any estimate as to its rate, it should only be counted when the child is asleep. A rapid pulse with an increased temperature is an indication of fever, and this rarely fails to be marked by exacerbations, which usually occur in the afternoon. A very slow pulse is generally found in congestion or compression of the brain. With a tendency to coma, this is a very unfavorable symptom.

In examining the mouth, we may find the tongue and adjacent surfaces of a brilliant red. In the acute eruptive fevers, this is darker or brighter, according as we have measles or scarlet fever; the former the "raspberry tongue;" the latter the "strawberry tongue," from the resemblance in color and appearance to those fruits, due to the variety of redness and the elevation of the papillæ. This peculiar sign occurs at a very early period, several hours prior to the appearance of the cutaneous eruption. In scarlet fever, we have added a hot, dry breath. With such symptoms, we find general redness of the middle of the soft palate, which may extend to the anterior faucial pillars and the tonsils; rarely, as in small-pox, to the posterior wall of the pharynx alone. Another special sign in measles is that the posterior walls exceed the anterior in redness. To distinguish further in these two forms of fever, in scarlet fever we would have no swelling of these parts for the first few hours; while in measles the tonsils would be swollen as an early symptom. In all eruptive fevers, it is usual for the eruption to appear first on the roof of the mouth. In scarlet fever, this would be of a bright scarlet hue, without prominence, disappearing momentarily on pressure.

When the tongue is covered with a white matter resembling curds, the bowels are disordered. Here we find aphthæ, small ulcers, or even patches of ulceration, the result of improper food, indigestion, etc., all pointing to a debilitated condition of the bowels.

Swollen tongue, showing the indentations of the teeth, is always a symptom of bad omen.

The tongue dry and roughened, or dark, is a very unfavorable symptom. On the contrary, as moisture begins to show on the tongue, a favorable state of the child may be assumed.

Vomiting occurs so easily in infants, that it often may be regarded merely as a regurgitation of the surplus food. Hence, it does not usually attract so much notice in the early stages of disease. When the food comes up undigested some considerable time after it has been taken, it indicates want of tone in the digestive organs. Acid vomiting tells its own story.

Vomiting almost invariably occurs at the outset of scarlet fever; very rarely in the other acute exanthems, and does not recur, except in very grave cases. In affections of the brain, particularly after injuries, as by blows upon the head or concussion of this organ from any cause, vomiting is a constant symptom. It is an early concomitant of cholera infantum. It must also be remembered that vomiting is frequently the first sign that the breast milk is disagreeing with the child, because of pregnancy, or other condition improper for the continuance of nursing. The diagnosis is here made by the constant recurrence of this symptom without the advent of others, unless it be diarrhœa or the evidences of want of nourishment. Vomiting often ensues immediately when a child is nursed by an excited or exhausted mother. Here, too, coma or convulsions frequently follow.

Vomiting will occur in many infants that are deprived of the breast milk, or where an improper form of food is employed. With many children, it becomes a matter of great difficulty to find food that will agree with, or even be tolerated by the stomach.

The breath of an infant should be odorless. It becomes acid from an excess of acid in the food. All odors of the breath should attract attention, especially that of fœtor. This demands a careful examination for ulceration of the cheeks, throat, nose, etc. Occasionally it has been the earliest notice of the presence of diphtheritic throat.

The evacuations from the bowels should always be carefully inspected. Rarely can so much be learned by a description as by an inspection. Hence the nurse should reserve each diaper as removed, or several separately when convenient, and without the admixture of anything which would change the appearance of its contents. Sometimes a number of evacuations, alarming by their number, when combined will only amount to what should ordinarily be passed at once. Errors in diet are readily detected by the presence of particles of undigested food, seeds, skins, curd, and a variety of foreign bodies. Thus may be shown the presence of parasites, acidity, blood, mucus, the want of bile, and other disordered conditions. Blood mixed with mucus, febrile symptoms being present, would indicate dysentery. Pure blood would demand an examination for an injury, a foreign body, a polyp, and would be a symptom of purpura hæmorrhagica. Difficult passages, with blood or small discharges of blood, and the absence of the ordinary matters, would indicate constriction of the bowels, intussusception, etc. Dark green discharges or black tarry evacuations continuing for days after the birth of the child, show that the meconium has not been completely expelled.

Cold causes the passage of slimy mucus. The absence of one or more evacuations each day is important to notice, lest when other symptoms do not present a habit should thus be contracted. Colic is thus produced, inflammation of the bowels, or the straining to cause an evacuation may end in prolapsus ani, hernia, or other injury. In obstinate constipation the use of opiates may be suspected, and a most rigid inquiry should be made.

The urine if passed with pain or suppressed, demands an examination of the genitals to detect the presence of a stone in the urethra, an agglutination of the orifice of the prepuce, etc. The urine becoming scanty or disappearing after an acute attack, as scarlet fever, indicates disease of the kidney and dropsy.

A very frequent trouble is constantly overlooked, or regarded in a wrong light. This is incontinence of urine. Much injustice is caused by a want of knowledge as to the nature of this affection. Parents, supposing it due to natural uncleanliness, or to laziness, endeavor to correct it by severe punishment. Again, by many it is regarded as utterly incurable—a belief which is, unfortunately, shared by members of our profession and thus neglected, children are suffered to grow to years of maturity the victims of a disgusting malady. Even in these cases, in many instances, it has proved amenable to treatment.

Night terrors, that peculiar condition which causes even older children to spring screaming from the bed at night, or to scream and cover their heads with the clothing, should not be disregarded or treated as willfulness. It is a symptom imperatively demanding attention, and one which if its causes are not removed may eventuate in idiocy, or later in insanity.

Finally, a careful grouping of symptoms, the elimination of causes of errors, a thorough examination of the infant both during repose and when aroused; and, in the event of difficulty in making the diagnosis, with the clothing entirely removed will rarely fail to enable the practiced and observant physician to arrive at a positive conclusion as to the nature and cause of the affection, and give him a clue to the proper line of treatment.

IS ALCOHOL ESSENTIALLY A STIMULANT OR A PARALYZANT?

BY A. B. PALMER, M.D., LL.D., PROF. OF PATHOLOGY AND PRACTICE OF MEDICINE, IN THE COLLEGE OF MEDICINE AND SURGERY, UNIVERSITY OF MICHIGAN.

For many years past, from my own observations and experience, I have been convinced and have taught, that alcoholic drinks should not be spoken of as stimulants—as though their leading effect was the increase of power or activity in the system. That in certain conditions of disease, of shocks from injuries or suffering, and in some persons habituated to their use, they increase action temporarily, I have admitted and still admit; but that their effect in the physiological condition is to increase action, at least to any useful extent, even temporarily, in whatever quantity used, I have for a very long time doubted, and for several years past have very confidently denied. In the particular function where the most positive and ready test can be applied—that of muscular power—experiments have always shown that no quantity of alcohol, small or great, can increase that power in ordinary healthy conditions. One lifting all he is able cannot be made to lift more by taking alcohol. Experiments in France and elsewhere have invariably shown that when suf-

ficient alcohol was taken to produce an appreciable effect upon the muscles, their power has been *diminished* and not increased. It has been proven that this is the case not only with men, but with other animals. The horse, in the races when strength and fleetness are most exactly tested, cannot be made to run faster by any alcoholic dose; but on the contrary is weakened and rendered helpless by it.

These facts have long been known, though the proper conclusions from them have not always been drawn. Men who indulge in alcohol often fancy themselves stronger from its use. When so much weakened by it that they can scarcely stand, they often boast of their strength prompted by a deceptive feeling. When it is taken in smaller quantities, the same delusion is often produced. Those who habitually use alcohol, opium, or even tobacco, feel depressed when deprived of their accustomed narcotic, and are revived by returning to it; but no physiologist thinks of calling tobacco a "stimulant" because of this. All contend that its effect is essentially sedative—a diminisher of action. The writings of the late Dr. Anstie, of London, though he was not an advocate of complete abstinence from alcoholics, have done much to call attention to the precise action of these articles, and oppose the more common but erroneous view of their "stimulating" qualities.

The views of Dr. Richardson, the eminent sanitarian, physiologist and physician of London, on this subject are well known, but as years ago he followed his physiological views to their practical conclusions, and became an ardent advocate of total abstinence, a practice and a cause at that time, and still with some, unpopular in England, his opinions founded on scientific experiment and careful observations have not exerted the influence among scientific men to which they are entitled. More recently other scientific men, not connected with any special temperance movement, have expressed opinions on this subject which must have much influence in changing professional opinions and expressions, though long established custom of expression, belief or practice is slow to change.

Dr. Samuel Wilkes, of Guy's Hospital and Medical School, and one of the most acute and independent thinkers in the profession, in England and elsewhere, in an article in the *Cotemporary Review*, since published with other articles on the subject in a book, says:

"If most persons analyze their sensations after imbibing any alcoholic drink, they will soon discover that to describe the effect produced upon them by it as *stimulating, is a misnomer;* and that, consequently, the employment of the expression almost begs the whole question as to its operation and value; for there can be but little doubt that it is owing to this misapplication of the term *stimulant* to alcohol, with many conveying an idea of strength, that causes it to be so much recommended, and taken with so much satisfaction. If a person is low and a glass of wine produces a pleasurable effect, it is easy to regard it as a stimulant, and as having afforded some proportion of strength."

This, he thinks, is a mistake. He further says: "Its stimulating effects may be regarded as *nil* compared with those which may be styled its *sedative* or *paralyzing* ones. In a word, alcohol for all intents and purposes may be regarded as sedative or narcotic, rather than stimulant." He classes it with opium, Indian hemp and tobacco. It doubtless may sometimes temporarily soothe a worried, nervous system, but its secondary effects cause more worry, which worry it may again soothe. But by these repetitions the *alcoholic habit* and all it sad effects of chronic alcoholism follow.

But other means of testing this question of the stimulating or sedative effects of alcohol more precise and measurable, if not more satisfactory, are used. One of the latest series of experiments which has come under my observation was made by Sidney Ringer, M.D., author of an excellent work on materia medica and therapeutics, and professor of the practice of medicine in University College, London, together with Harrington Sainsbury, M. D., M. R. C. P., published in May number, 1883, of *The Practitioner*, a journal of therapeutics and public health, edited by T. Lauder Brunton, M.D., F. R. S., Fellow of the Royal College of Physicians, lecturer on materia medica and therapeutics in St. Bartholomew's Hospital School, etc.

The object of these experiments was to ascertain the strength of the different alcohols, and they were made upon the hearts of frogs. They were conducted in a strictly scientific manner, with the most approved instruments of precision now so frequently in use by original investigators in physiology.

All the alcohols were found to diminish the power and soon to stop the action of the heart; and the experiments were so managed in the light of previous experience as to have the complete arrest occur in about an hour; and the strength of the different alcohols was determined by the quantity required to produce the effect.

It was found, according to these experiments, that the action of all the alcohols was essentially the same in kind, differing only in degree. All arrested the heart in diastole—that is, stopped it in a state of relaxation or paralysis. *None of them increased the power of the heart at any time or in any degree of their action, but diminished it from the first, and until it was arrested.*

Of the methylic alcohol ($C H_4O$), the lightest and most powerful of the series, 205.5 minims were required to stop all action in the given time. Of the ethylic (C_2H_6O), the common alcohol, it required 114 minims. Of the next heavier, the propylic (C_3A_8O), 59.3 minims were required. Of the butylic ($C_4H_{10}O$), 17 minims were required; while of the amylic, the heaviest ($C_5H_{12}O$), only 6.6 minims were required to stop action.

These articles, properly diluted, were caused to pass through the heart, and were thus applied directly to its tissue, and may not represent the action of the articles correctly in all respects as applied to the general complex human system; but the experiments showed clearly the essential action of the agents, and demonstrated more positively their paralyzing, and

the absence of their stimulating effect, than their application to a complex organism, where paralysis of *inhibitory* or restraining functions may result in increase of certain actions.

These experiments, the authors declare, demonstrate more definitely than any others that have been instituted the *essential qualitative similarity* of the action of all the alcohols—their *sedative* effects—and a certain general *quantitive* relationship of one to another. It is scientifically interesting to the chemist and the physiologist to know that as the complexity of the molecular combination increases, the physiological activity, or poisonous effect, increases.

There are some small quantities of these heavier alcohols in various liquors, and certain combinations of them are said to constitute the fusil oil. The quantity compared with the 50 per cent., more or less, of common alcohol in spirits, is not often sufficient to modify the effect to any appreciable extent. especially as the qualitative effects of all the alcohols are so similar; but so far as they are present they increase the poisonous qualities of the liquors containing them.

The report of Drs. Ringer and Sainsbury closes with the remark, announcing the most important practical fact which these experiments confirm, viz., "that by their direct action on the cardiac tissue these drugs are clearly *paralyzant*, and that this appears to be the case from the outset, no stage of increased force of contraction preceding" (*Practitioner, May*, 1883, *p.* 350).

In another part of the report the authors say: "The position alcohol occupies is that of a *narcotic*, and it is probable that its action is very similar to that of ether. * * The sphygmographic experiments of Parkes and Wollowicz on man showed clearly the accelerating effect [of alcohol], but gave no distinct indication of increased arterial pressure." The arterial pressure is the evidence of the increased force. Increased frequency of pulsation is often the strongest evidence of diminished force or power, a very rapid, fluttering pulse usually occurring in extreme weakness.

All agree that the ultimate effect of any considerable amount of alcohol is depressing and paralyzing, and that in chronic alcoholism all the conditions indicate the failure of power; but yet many, even medical men, at least by their use of language, seem to think that in moderate quantities and as frequently used it is a stimulant, and some perhaps still regard its depressing and fatal effects as the result of overstimulation.

With the facts now presented before us, and others of a similar character so constantly accumulating, it cannot be long before our ideas and our language respecting alcoholic drinks will more nearly conform with the teachings of science.

A CASE OF TYPHLITIS, WITH AUTOPSY.

BY R. D. BARKER, M.D.

Luella A., American, aged twenty-one years. Was called to see her first at 2 P. M., July 5, 1883. Learned the following history of the case: Had been for some time of a costive habit—bowels frequently not moving for three or four days. Although not feeling very well, she went on an excursion to Spirit Lake, twenty miles distant by rail July 4. The forenoon of the day was damp and rainy, and upon arriving at the lake she was too ill to join her companions in the grove, but lay on the sofa in the sitting-room of the hotel most of the day. She complained to her friends of pain "across her," and vomited once or twice during the day.

On returning home in the evening, not having had movement of her bowels for two or three days, and the pain across her continuing, her mother gave her a dose of salts which she vomited. In the evening after her return she attended a dance, but was too ill to stay long; was in pain all night, the night of the 4th; the morning of the fifth, her bowels remaining costive, her mother gave her some senna tea which she vomited. I found her at 2 P. M., the 5th of July lying dressed on a sofa; had been crying, and seemed very low spirited, anxious and dispondent; very little febrile excitement; pulse 92; temperature normal; tongue slightly coated; her menses had appeared two weeks ago, and she was regular in her periods; she complained of severe pain in lower part of abdomen, extending to the pubes; excessively tender over the region of pain; very little tympanites; urine normal in quantity (so she said), but voided with pain; bowels not moved for three days. The pain being so low down and so severe, without the grave constitutional disturbance indicative of peritonitis, I diagnosed neuralgia of womb and appendices, and ordered copious vaginal injections of water as warm as could be borne; to apply hot applications over abdomen, and

℞ Fluid extract gelsemini.....gtt. ix
Fluid extract belladonna .....gtt. xvi
Simple Elix..... ʒvi
M. Sig. Teaspoonful every two hours.

Was called at 11 p. m.; medicine had given no relief; lies on the sofa, with knees drawn up, face flushed; pulse 140, and depressed; abdominal tenderness very marked, patient crying out in agony.

I question mother, and learn that she had not urinated to-day, and that they had misunderstood my orders, and had given her one quite large warm water enema into the rectum, which had produced two free liquid discharges. I pass catheter, but obtain no water; I introduce $^1/_2$ grain suppository of sulph morphia into rectum; I ask for counsel, and Dr. J. Croft is called. We wait half an hour for the effects of the suppository, and then find it necessary to give her by hypodermic injection $^1/_8$ grain sulph. morphia and $^1/_{120}$ grain atropia. This in the course of an hour gives her much relief, and we leave her with instructions to introduce the suppositories every two hours if necessary to relieve pain, and to continue hot fomentations.

Saw her again at 9 a. m.; now thoroughly under the influence of the morphia, but hardly free from pain; has had nausea since early morning, and has vomited several times, greenish, bilious fluid, containing no fœcal matter; pulse 150, and weak; body bathed in cold, clammy sweat; complains of intense

dryness and burning sensation in her throat and stomach; introduce catheter and withdraw 8 ounces urine; is to continue suppositories as may be necessary to keep her comfortable; continue hot fomentations, and to have ice water freely and to swallow little pieces of ice frequently.

6 P. M. Not quite so tender over abdomen; increased tympanites; still vomiting, not fœcal; seems to retain what is given while the stomach fills, and then ejects it; bowels not moved; perfectly rational; distress at stomach and throat continues; pass catheter and obtain 6 or 7 ounces of urine; ordered mustard over pit of stomach, otherwise continue treatment.

Called at 1 A. M. July 7; again in agony; pain and area of tenderness increased, now extending from pubes to navel; vomiting continues; prostration extreme; cold, clammy perspiration; pulse hardly numerable; I introduce catheter and obtain 8 ounces of urine, and introduce suppository, and again call Dr. Croft. When he comes she seems much easier, and we conclude the alarming symptoms to be the result of the distension of the bladder. Dr. Croft, who has from the first visit been inclined to the belief that the disease was intussusception of the bowels, suggested the introduction of a long flexible rectal tube, and the flooding of the bowels with tepid water. Going to his office for his tube, when he returned she was so much easier we postponed the operation.

9 A. M. Has slept some since previous visit; is more comfortable; vomits, but less often; not as much abdominal tenderness, and less tympanites; pulse 120, fuller; withdraw 4 ounces urine. As she now seems almost free from pain, and believing the discomfort of the throat and stomach is caused by the morphine, I discontinue the suppositories.

6 P. M. Vomiting ceased; free from pain; pulse 120; temperature 98°; catheter passed, and 6 ounces urine obtained; is now taking no medicine; beef tea, wine and milk, as much as stomach will tolerate; called at midnight and passed catheter—6 ounces urine.

July 8—9 A. M. Has slept considerable during the night; more comfortable, perfectly rational, and much more hopeful; pulse 128, temperature 98½; has passed her urine once since midnight unassisted.

6 P. M. Seems to be slowly improving; stomach retains considerable liquid food; is now taking no anodynes; tenderness and tympanites disappearing; as she has had no movement of the bowels since the first day of the attack, and she complains of desire for the stool, I direct the nurse to inject into the bowels slowly and carefully one half pint of warm water, discontinuing the injection the moment it gives her pain; half an hour after was called in great haste, and found patient suffering greatly; her mother informed me that they commenced to give the enema as ordered, but had passed up not more than two or three tablespoonfuls before she commenced to complain of its giving her pain.

I now called Dr. L. W. Warren in council, and expressed to him my positive conviction that there was a perforation of the bowels somewhere in the region of the descending colon, and that the injected liquid passed directly into the peritoneal cavity. In no other way could I account for the sudden increase of all inflammatory symptoms every time the syringe was used. Dr. Warren advised the resumption of the hot fomentations and the morphia suppositories, and also the application of pure chloroform upon flannel to the region of abdominal pain and tenderness.

From this relapse she never recovered. All the inflammatory symptoms returned in an aggravated form, she became delirious and rapidly sank, and died July 11th, at 11 A. M.

Autopsy five hours after death.

Upon opening into the abdominal cavity I find it filled with a yellowish milky fluid, evidently the liquid food she had been taking for several days.

There was diffused inflammation of the peritonæum and bowels, much more marked on right side in the vicinity of the descending colon and appendix vermiformis, and a creamy, tenacious deposit on the coat of the bowels, evidently of inflammatory origin, and a slight deposit of pus in the immediate vicinity of the appendix.

Examining carefully the appendix vermiformis, I find a perforation, and just at point of perforation, but within the part, a hard substance about twice the size and of the shape of a kernel of wheat, which proves to be hardened fœcal matter. Upon pressure upon the bowels, its contents would be expelled through the rupture.

The remarkable features of this case are, the length of time she survived the perforation, and entrance of the fœcal matter into the abdominal cavity (as I am confident, from a careful study of the case, that the first injection given into bowel, when ordered for the vagina, passed into the abdominal cavity), and the seeming improvement of the patient after perforation.

WORTHINGTON, Minn., Aug. 31, 1883.

AT the last meeting of the New Brunswick Medical Society at St. Johns, the following members were elected: Dr. Vail, President; Dr. Walker, 1st Vice-President; Dr. Patterson, 2nd Vice-President; Dr. G. M. Duncan, General Secretary; Dr. Coleman, Corresponding Secretary; Dr. Nevers, Treasurer; Drs. Daniel, Allison and Berryman, Trustees. The meeting then adjourned to meet in St. Johns, on the 3rd Tuesday in July, 1884.

PROFESSOR WALDEYER, of Strasburg, succeeds Professor Reichert in the chair of Anatomy in the University of Berlin. Dr. H. Chian has been made Professor of Pathological Anatomy in the University of Prague.

Gaillard's Medical Journal has returned to its old monthly form. The change was made at the request of many subscribers. It is now the only monthly medical journal published in New York.

THE

Journal of American Medical Association.

PUBLISHED WEEKLY.

THE EDITOR of this JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information, should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

SUBSCRIPTION PRICE, INCLUDING POSTAGE.

PER ANNUM, IN ADVANCE..... $5,00.
SINGLE COPIES..... 10 CENTS.

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made at the risk of the publishers, by forwarding in REGISTERED letters.

Address

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 65 RANDOLPH STREET,
CHICAGO, ILLINOIS.

SATURDAY, SEPTEMBER 8, 1883.

EXPLANATION.—We have allowed the papers furnished to the late Chairman of the Section on State Medicine to occupy in this number the space usually given to "Medical Progress." The latter will be resumed as usual in our next number.

PROGRESS OF STATE MEDICINE AND STATE BOARDS OF HEALTH.—The Section on State Medicine of the American Medical Association embraces a standing committee of one from each State, whose duty it is to report the progress and condition of State Medicine in their respective States. Previous to the annual meeting in Cleveland, June, 1883, the officers of that Section addressed to each member of that committee the following questions:

1. Have you a State Board of Health or its equivalent?

2 What changes, if any, have been made during the year in the organization, powers and duties of such Board?

3. The number and character of its auxiliary and local organizations, if any?

4. The changes made, if any, in your laws designed to arrest the spread of communicable diseases, and what diseases are held, by statute, to be communicable and dangerous to public health?

5. What, if any, new laws or amendments of old ones, providing for the collection, tabulation and publication of vital statistics?

One of the questions to be presented for the consideration of the Section of State Medicine, at the meeting in Cleveland, June 5, prox., will be—

"How can medical men best promote sanitary progress? Do the advanced ideas and radical measures of medical men and medical organizations, on sanitary questions, retard State or municipal sanitation?

Any facts, bearing on this question, which your report may include, will be welcomed.

I have delayed this usual call, for these annual reports, in order to get the latest action of our State Legislatures. Very respectfully,

FOSTER PRATT, M.D., Chairman,
Kalamazoo, Mich.

THOS. L. NEAL, M.D., Secretary,
Dayton, Ohio.

Responses were made to these questions by the representatives of the following States and of the Medical Corps of the Navy: Arkansas, Colorado, Indiana, Illinois, Kentucky, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, North Carolina, Ohio, Rhode Island, Tennessee, Virginia, and Wisconsin.

Several of these responses consist only of printed reports of Boards of Health or brief references to such documents, while a few of them give a fair account of the progress of official action in the efforts to improve the sanitary condition of the people and in some cases to regulate the practice of medicine. The progress of the work in Michigan was fully explained in the address of the Chairman of the Section, which was published in THE JOURNAL for Aug. 18, and a full account of the practical working of the sanitary and medical legislation in Illinois is given in the report of Dr. H. A. Johnson, which, by request, was read in full before the section, and therefore we feel justified in giving it a place here. We shall also gives nearly a or full copy of the report by the representative of the navy. The report of Dr. H. A. Johnson, in regard to the "Working of the Illinois State Board of Health" is as follows:

This Board is no longer an experiment. With the close of this month will end the sixth year of its existence. During these six years it has at least met the expectations of those who were most active in promoting its formation.

With many limitations and imperfections in the constituting act, it has accomplished much of permanent value both for the profession and for the public. It is doubtful if such results could have been accomplished in any other way or by any other agency, at this stage in the development of public opinion.

At the date of the foundation of this Board, July 1, 1877, the profession in Illinois embraced 7,400 individuals, and was composed, in round numbers, of 3,600 graduates in medicine, and 3,800 non-graduates, itinerants and nondescripts, who combined various other vocations with that of "doctor"; for example, there were, according to the records in the office of the Board, 171 ministers who were upon occasion healers of bodily ailments, and who, if not entitled to write "D.D." after their names, had no hesitation in writing "Dr." before them, with quite

as little warrant for the latter by virtue of any regular course of medical study, as for the former by reason of their theological education.

These, almost without exception, belonged to some of the irregular schools—Thompsonians, magnetic healers, "faith doctors," etc., being found among them.

But four or five of this class now remain in the State as medical practitioners, and the continued existence of these is due to what is known as the ten years prior practice clause of the Medical Practice Act, concerning which a word or two may be said in another connection.

Dr. Darrah, President of the Illinois State Medical Society, in a recent address, has analyzed the composition of the 3,800 non-graduates of 1877, with the following results:

Applicants to the State Board for certificates under the prior practice clause,	1,956
Non-exempt non-graduates whose names have disappeared from the County Clerks' registers	966
Non-graduates examined for certificates	618
Making a total of	3,542

He accounts for the remaining 260, concerning whom there is no documentary evidence or official record, as comprising a number of unqualified non-residents, whose practice extended into Illinois, and those who voluntarily left the State during the first five months after the passage of the act, and without attempting to comply with its requirements.

In addition to its dealings with the original 7,400, the Board had received, up to January 1st of the present year, applications from 3,780 new graduates and migrating physicians, representing an average increment of 630 per annum, and making a total of 11,180 individuals coming within the purview of the Medical Practice Act, except as exempted by the prior practice clause.

From the official register in the Secretary's office, and the returns from the County Clerks' offices—in which every physician, without exception, is compelled to record his name and address—it is found that there were on January 1st, 1883, a total of 6,251 registered practitioners in the State, being a gross reduction of 4,829 from the aggregate of the six years, and an actual reduction of 1,149 from the number in practice July 1st, 1877.

If from 6,251 registered physicians there be deducted those not actively engaged in practice, but who still preserve their legal status as practitioners, the proportion of population to each practicing physician will be found to have risen, from 398 to 1 in 1877, to 620 to 1 in 1883. The gain, however, is not to the profession solely, nor even in the larger proportion.

In 1877 there were 73 itinerants traveling through this and adjoining States, who swindled the people of Illinois out of an aggregate of over $200,000 each year. In 1883 there are just seven of these left, shielded by the ten-years' practice clause. There is thus saved over $180,000 a year to a class of people who can least afford to lose such a sum. Even this affords an insufficient measure of the gain to the community which results from the higher standard of professional attainments which now obtains through the operation of the Medical Practice Act. Whereas, in 1877 the non-graduates outnumbered the graduates. At the beginning of this year there were 5,559 graduates and only 692 non-graduates. How this change has been effected is shown, to some extent, in the following passage from the report read at the April (1883) meeting of the Board:

"Among the certificates issued during the past month a considerable number were to practitioners exempt from the Medical Practice Act, by reason of length of practice in the State, but who have recently graduated from the reputable medical colleges; and also to others holding certificates based on examinations, and who have pursued the same course. It is gratifying to be able to record this result of the recommendation of the Board, whose policy it has uniformly been to urge non-graduate candidates for its certificates to complete the regular curriculum of study, and obtain the diploma of a college in good standing."

There has been in some quarters criticism of the composition of the Board. The following facts seem to be a sufficient answer to such criticism as far as it relates to a mixed Board.

During the first eighteen months certificates were issued to 3,646 regular practitioners and to 1,304 irregulars, including homœopaths, eclectics, and those of no specified school. The last official register shows 4,362 regular and 1,234 irregulars, a gain of nearly 20 per cent. to the former and 6 per cent. from the latter.

The Board is required by the law to accord examinations to non-graduate applicants for certificates, and has examined in all 618. Of these it has passed 220, but with the improvement in the status of the profession it has gradually increased its standard also, until, at the last annual examination, of eighteen applicants five withdrew before attempting to answer the questions, and the remaining thirteen were rejected. As Dr. Darrah remarks, "The schedule of the questions propounded and the results of these examinations are conclusive that it is not through the action of the Illinois State Board of Health that the ranks of the profession will be swelled by incompetent practitioners."

By such measures as these, and by it action in reference to the recognition of Medical Colleges, the Board is exerting an influence upon the profession and upon medical education which is by no means confined to Illinois. It has been called upon to determine the standing of eighty-three of the one hundred and ten existing medical schools in the United States and Canada. It has rejected either provisionally or unconditionally, the diplomas of twenty-eight different institutions, thirteen of which are now extinct. Henceforward, the diploma of any school which does not conform to the Board's schedule of minimum requirements will be valueless as entitling its possessor to practice in Illinois. This schedule has been framed after a careful study of the usages and methods of the various schools, and its adoption seems to be another illustration of the prudence,

moderation and wisdom, combined with steadfast effort for improvement which have thus far characterized the official actions of the Board under the Medical Practice Act.

That clause in the act which exempts from its operation those who had been in practice ten years prior to its passage, has been the source of much trouble and has incurred for the Board not a little unjust criticism. Under its shelter the few remaining advertising quacks and itinerants still prolong their vicious careers. But time is correcting this, with other evils. As these die out no new crop is possible, and a few years more will see the last of them.

As a sanitary organization, the Illinois State Board of Health has accomplished a very creditable amount of practical sanitary work. During the recent small-pox epidemic it secured, directly, through an official order, the vaccination of over 300,000 public school children, and indirectly, by means of circulars pamphlets and other methods, the vaccination or re-vaccination of over one and one-half millions of others, both children and adults. Its rules and regulations for the suppression of small-pox were furnished to over two hundred infected localities in the State during the epidemic, and in every instance where they were carried out with any degree of thoroughness the disease was confined to the first cases or families attacked.

It has prepared and published a series of "Preventable-Disease Circulars," treating of small-pox, scarlet fever, diphtheria, typhoid fever, etc., which are admirable in matter and manner.

Among the matters which have engaged its attention, outside of the usual routine, may be mentioned:

The promotion of the burial permit system; the removal and transportation of corpses; the sanitary care and policing of railway stations and grounds; the sanitation of railway and steamboat travel; the supply of pure vaccine virus; the formation of local health organizations; remedies for river and canal pollution; the conservancy of water-supplies; inquiries into the causes of excessive death-rates in certain localities, with suggestions for relief; investigations concerning the existence of glanders, trichiniasis, diphtheria, scarlet and typhoid fevers, and other contagious or preventable diseases; the location and sanitary control of graveyards, slaughtering, packing and rendering establishments, and of public dumping-grounds; food adulterations, including swill-fed and glucose-refuse milk; the effects of parks and of vegetation upon climate; of subsoil drainage and sewerage upon health and the death-rate; the sanitation of small cities and towns, etc.

In all of the above it has done an amount of work and secured results entirely out of proportion to its resources; for, like all such organizations in this country, the appropriations for its support have been inadequate; and it has been only by the personal sacrifices of its members, and the enthusiasm and devotion of its executive officer, that such results have been attained.

In its work the Board has promptly utilized all available agencies; and alike in the protection of our southern extremity from yellow fever, through its connection and influence with the Sanitary Council of the Mississippi Valley, as in guarding our eastern boundary from imported small-pox, through the emigrant inspection system of the National Board of Health, it has demonstrated the feasibility of a public health service in entire consonance with any or all political theories, whether of "States Rights" or of "National Sovereignty." Possibly this was to be expected of a State whose coat of arms bears both those mottoes. It is none the less gratifying, however, to discover an organization capable of defining State medicine in a cosmopolitan spirit, and thence to avail itself as quickly of the resources of the Federal treasury and national authority on the one hand, as of the moral and material support of a volunteer co-operation on the other.

The following report of Albert L. Gihon, A.M., M. D., representing the U. S. Naval Medical Staff, will be read with interest:

WASHINGTON, D. C., June 1, 1883.

FOSTER PRATT, M.D., *Chairman, Section in State Medicine American Medical Association,*

Sir:—In response to the questions propounded in your circular-letter of May 1st, addressed to the elected members of the Section in State Medicine, I beg to state:

FIRST. That the officers of the medical corps of the Navy are distinctively *health officers*. It is impressed upon them, when they enter the service, that their most important function is the preservation of the health of the personnel of the Navy as a necessary factor of its efficiency, and the regulations for the government of the Navy expressly impose upon them the duty of recommending, whatever in their opinion, may be conducive to this end.

Annual sanitary reports are required to be made to the Bureau of Medicine and Surgery under the following heads:

(*a*) General hygiene, which shall include a report of the sanitary condition of the ship or station, accounts of epidemics or important cases of disease which have not previously been reported, together with such information or suggestions as may tend to the prevention of disease, or have an influence in the preservation of the health of the personnel of the ship or station.

(*b*) Topography; to embrace a description of the ports visited during each year, with such information as may be obtainable.

1. General physical characteristics, relating to situation, soil, drainage, streets and buildings, etc.
2. Population—number and character of, customs, and habits of the people.
3. Climatology.
4. Food supply.
5. Water supply.
6. Prevailing diseases and statistics of diseases and mortality.
7. Establishments for the care of the sick.
8. Education, general and professional.
9. General remarks, including such recommendations or cautions as may be of service to other vessels visiting the port.

During the prevalence of epidemic or contagious diseases on foreign stations, especially in ports of the Gulf of Mexico, the West Indies, and the South Atlantic Station, medical officers shall forward to the Bureau, in accordance with the circular of the Secretary of the Navy of August 18, 1879, all reliable information relating thereto which they may be able to procure, cousulting for this purpose the consular and health officers of the port affected.

In addition, the *Board of Inspection and Survey* of the Navy, through the medical officer belonging to it, is required to inspect and report upon the sanitary condition of every vessel going into and coming out of commission, the report embracing the following points: The average cubic air-space per occupant of every apartment; the ventilation, dryness and illumination of the officers' state-rooms, steerages, forecastle, berths, decks, hospital and prisons; the ventilation, dryness and cleanliness of pantries, store-rooms, holds and bilges; the supply of fresh water and its probability; the abundance of the food ration and its preparation; the sufficiency and cleanliness of clothing and bedding; with the special provisions for the care and transportation of the sick and wounded, and for the emergency of the outbreak of epidemic and contagious dieeases.

2d. None.

3d. None.

4th. There are no specific regulations for the arrest of the spread of communicable diseases, this being left to the discretion of the medical officer of the ship or staton acting singly, or of a board of medical officers in cases of unusual gravity. Small-pox, measles, and other exanthemata are isolated on the spar-deck. Upon the appearance of yellow fever on board ship the effort is at once made to get the vessel away from the infected port, and to remove both sick and well out of her, the belief being general among the medical officers of the navy that the only safety for the well is to get them out of the ship; that the sick can be removed, provided the bedding and clothing are not carried with them, with entire impunity to those among whom they are received; and, with respect to the vessel itself, that a yellow-fever ship is always a foul ship; that foul ships, while often generating by their filth other epidemic diseases, have never developed yellow fever *de novo;* but that such a ship will become infected by communicating with a place where yellow fever is prevailing, and will disseminate it if removed to a locality where the sanitary conditions are bad and its contents—freight, food, baggage, or clothing—are taken out of her, while a clean ship may visit a fever port and, by vigorously abstaining from communication with the place, escape the disease. Absolute non-intercourse with sources of infection, which in the case of this disease are always believed to be exotic as regards this country, an effective quarantine and the use of dry superheated steam and sulphurous acid gas as germicides, are the means relied upon for the arrest of the spread of this and other communicable diseases. As a further measure in this direction, on stations where the compulsory inspection of public women is in vogue, no men are allowed to visit the shore who are not known to the medical officers to be themselves free from venereal complaints.

5th. The Surgeon-General of the Navy has recently extended the scope of the quarterly report of classified diseases occurring in the service, exacted from all medical officers who are heads of the medical department of every vessel, station and hospital by requiring statistical returns of etiology as far as this can be definitely established, showing the causative relations of inheritance, predisposition or antecedent illness, of climatic influences, local insanitary conditions, and of venereal infection, as well as the distribution of disease among the several grades of officers and men for each decennial period of age.

In this connection, I may be permitted to repeat what I insisted upon in my address as Chairman of this Section at its last meeting—that mere mortality returns are less important elements of vital statistics than detailed statements of the causes, character and number of disease occurrences in a community. The enumeration of births, marriages and deaths is an insufficient criterion of sanitary condition, for with the progress of medical science the deaths became less exact exponents of prevailing disease. The actual number of cases, their probable causes, and the number of days of duration of each, are the proper measures of the hygenic and economic disturbances of a population. Returns of this character are now tabulated and published annually in the report of the Surgeon-General of the Navy. Another class of exhibits, which may be consulted at length in the same reports, might profitably be exacted of every medical examiner for life insurance, as they indicate the amount of health impairment, which does not come under the observation of the practitioner—that is, the physical disabilities of individuals, who, considering themselves well or affecting to be so, seek admission into the military service or solicit insurance policies or membership in beneficiary societies. The report just published shows that of 6,792 persons examined for the naval service during the year 1881, there were 1,967, or 29 per cent., or one among every three or four individuals registered as physically disqualified, the principal disabilities being—

Defects of Vision—436, or 25 per cent. of those rejected, or 1 in 4 to 5 applicants.

Defective Development—411, or 21 per cent. of those rejected, or 1 in 4 to 5 applicants.

Diseases of Digestive System—322, or 16 per cent. of those rejected, or 1 in 6 applicants.

Diseases of Heart and Circulation—314, or 16 per cent. of those rejected, or 1 in 6 applicants.

Venereal Affections—205, or 10 per cent. of those rejected, or 1 in 9 applicants.

With respect to the inquiry, "*How can medical men best promote sanitary progress?*" undoubtedly the first important step, before success can be hoped from restrictive legislation, is the education of the masses in the essential facts of sanitary science. Ignorance of the danger of the violation of the laws of health induces antagonism where a comprehension of the evil sought to be combatted would have met with acquiescence. Compulsory vaccination is resisted because it is compulsory; the Contagious Diseases Acts are antagonized only on quasi-sentimental grounds; the social evil experiment of St. Louis was

assailed because the community did not comprehend the magnitude of the harm done by the diseases it disseminates when uncontrolled. People fear draughts, but are not afraid of foul air, and so close windows and ventilators to escape the former. When they are made to understand that foul air and moisture are the enemies of mankind, they will shun the unventilated church and theater; when they are taught that diphtheria and scarlet fever and typhoid are preventable diseases, they will welcome the ordinances which punish the dishonest plumber and the careless householder and establish restrictive quarantines; when they realize that venereal disease may and does enter the purest homes by a thousand unsuspected channels, they will join hands with the legislator, who would make its communication a social infamy and a punishable offense against the law; when they learn that the average of human life has been prolonged one-seventh in the course of a single generation by improved hygiene, they will give heed to the advice that will keep them well, rather than depend upon that which is to restore the health that has been needlessly wasted. Impracticable sanitarians, who find a sting in every sweet that human tastes crave and enjoy, encourage the resolve to brave the risk for the sake of the pleasure. The restriction of the dietary to a few plain, unpalatable simples, the uncompromising warfare against tobacco and alcohol in every shape, the unqualified denunciation of every form of relaxation and amusement, even to the latest novelty of bicycle riding, are instances of sanitary reform retarded by injudicious radicalism. Medical men can best promote sanitary progress by aiding in the dissemination of information as to the actual prevalence of disease, the established facts of etiology and prophylaxis, and the inevitable consequences of their disregard, and this can best be accomplished through sanitary associations and publications, especially in the secular press, which has come in this country to be for the citizen what the school is for the child, with the advantage for the adult that the lessons are taught in a more rational, agreeable and effective manner.

PROGRESS OF YELLOW FEVER.—Advices from Pensacola to September 4th represent the city as continuing healthy and free from the fever. Three new cases had been reported at the navy yard, and one death. The death was that of a Dr. Bosso, who is represented by the newspapers as having had a specific for the cure of yellow fever. But it seems to have failed in his own case. It is claimed that several cases of the fever have occurred in the village adjoining the naval reservation. News comes from San Francisco that cases of yellow fever have occurred at Mazatlan, in Mexico.

SMALL POX.—This disease still lingers in New Orleans, there having been nineteen deaths from it reported during the week ending the 18th of August.

SINCE our last issue we have observed nothing new concerning the progress of the cholera in Egypt, except that it has so far subsided that the quarantine restrictions have been removed along the Suez Canal and commerce restored.

DOMESTIC CORRESPONDENCE.

THE NAVAL LABORATORY.—ERROR CORRECTED.

1932 Chestnut St.,
PHILADELPHIA, Aug. 29, 1883.

EDITOR OF THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION:

In No. 6, August 18, p. 192, of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, received the 27th, is a brief obituary notice of Dr. Benjamin Franklin Bache.

It is stated in it that "he established the Naval Laboratory," etc. This is an error. It is of little significance in itself, but it is interesting in connection with historical accuracy and the immense importance of truth, which we all profess to respect.

The Naval Laboratory at the Naval Hospital, Brooklyn, N. Y., was started by myself in the autumn of 1845, five years before Dr. Bache was connected with it. Its origin is due to a small circumstance. At that time medical supplies of all kinds were furnished to the navy on a contract awarded yearly to the lowest bidder. Late in a day of October or November, just before leaving the hospital to visit New York, I observed, while giving some instructions to the steward in the dispensary, that the laudanum bottle was very nearly if not entirely empty. Thinking it would be imprudent to permit a hospital containing from seventy to eighty patients to be without laudanum during the night, I put into my pocket a pint bottle and called at the shop of the contractor, a leading wholesale druggist of New York. I requested a clerk to fill my bottle. The young man innocently asked, "Do you get the shilling or two shilling laudanum?"

That simple question was the foundation of the Naval Laboratory. An examination of the preparations in the dispensary the next day satisfied me that the contractor furnished many other one-shilling and two-shilling articles besides laudanum. On my representation of the circumstances to the Chief of the Bureau of Medicine and Surgery, Dr. Thomas Harris, I was authorized to make all preparations used in the hospital. After an experience of a few months, I proposed to Dr. Harris to enlarge our operations so far as to be able to supply the dispensary of the navy yard and all vessels fitting at New York. I argued that the plan could be realized without augmenting our working force, and that we would be confident that all preparations issued from the hospital were pure and of the strength prescribed by the Pharmacopeia of the United States. The proposition was adopted, and was found in a short time to work so satisfactorily that all officinal preparations were made in the laboratory of the hospital for the whole navy.

After four years' service, I was relieved from the charge of the hospital by Dr. Waters Smith, Sept. 1, 1847. A board of medical officers, after examination, reported substantially that the hospital and laboratory were in a satisfactory condition. I enclose a copy of an official letter, in reference to the subject, addressed to me by Dr. Harris.

Dr. Smith continued the work of the laboratory, adding from time to time to its apparatus and facilities until his death, in August, 1850. In September of the same year I was again placed temporarily in charge of the establishment, hospital and laboratory, and held it until some time in December, when I was relieved by Dr. Bache, immediately after his return from a cruise on the coast of Brazil, where he had served as surgeon of the fleet.

Dr. Bache took great pains to improve and extend the laboratory department. Under his skillful management it became an admirable pharmaceutical manufactory. When the term of his service as surgeon of the hospital had expired, 1853, he was relieved from the care of the hospital and appointed Director of the Naval Laboratory, which was then made a station or post distinct from the hospital. He was placed on the "retired list" Feb. 1, 1863, but was still continued Director of the Naval Laboratory until September, 1871. During the rebellion he performed the duties of the office, which were arduous and important, to the entire satisfaction of the Government, and therefore with credit to himself.

This brief account of the origin and growth of the Naval Laboratory is, I think, enough to show that the statement that Dr. Bache "established" it is not quite correct.

There are other inaccuracies in the notice. If the official record is reliable, Dr. Bache was born February 1, and not February 7, 1801, as stated. The Navy Register does not show that he was at any time "on furlough." He was a resident in Gambier, Ohio, in 1841, "on leave," and I conjecture that it was about this time that he was professor of natural philosophy and chemistry in Kenyon College. Dr. Bache, I believe, never claimed to teach "the natural sciences," or any department of natural history.

We have in the navy, Francis M. Gunnell, Medical Director, and Robert H. Gunnell, Passed Assistant Engineer, but none named J. N. Gunnell, who is credited with forwarding the notice. This may be an erratum of the printer.

If the testimony herein submitted conveys sufficient evidence that the error indicated is manifest, I request you to correct it in any manner that may seem to you proper, and oblige yours,

Very truly,
W. S. W. RUSCHENBERGER.

THERAPEUTICS OF TYPHOID FEVER.

A recent editorial in "*The Medical Record*" (August 11th) calls attention to the investigations of Klebs and Eberth into the pathology of typhoid fever, together with the announcement that Prof. Henri Desplats, of Lille, had made the discovery that *salicylate of bismuth* is "the great desideratum" in the treatment of that disease, and concludes as follows: "In short, the perusal of this article seems to justify the hope that in the *salicylate* of bismuth we have a new medicament of great antiseptic value."

As it is by experience alone that the truth or falsity of a theory can be demonstrated, it is to be hoped that some one having the time and opportunity will prove whether Prof. Desplat's assertions are true or not.

In this connection, however, it is desired to call the earnest attention of the profession to the claims of *sulphurous acid* in the treatment of typhoid fever. A course of experimentation with the drug, extending through a period of more than twenty years, in almost every variety of zymotic disease, convinces the writer that its power over and adaptability to the medication of this variety of ailment has not been recognized and appreciated by the majority of the profession.

That it is capable of modifying both the violence and duration of typhoid fever, has been demonstrated to my own and my patients' satisfaction so many times that without the drug I should approach the treatment of a case of that disease with considerable trepidation. Given in moderate doses during the period of dry skin and parched brown tongue, its effects are often magical.

This disease, however, is but one of the many in which *sulphurous* acid may be used both as a remedy and a prophylactic. *The acute infectious diseases are all modified, aborted, or wholly prevented by its use.*

While recognizing the latitude of the above declaration, the facts and proofs of its truth, in the writer's possession, fully justify it.

So fully is the writer persuaded of the immense value of this drug, that it is his intention, if opportunity shall permit, to submit to the profession the results of twenty years of critical study of this drug.

Most of the experiments have been made with bi-sulphite of soda, though in a few cases a solution of sulphurous acid diluted with glycerine has been employed, giving equally as good results, but not as well tolerated by the patient.

Let those who wish to demonstrate its utility use a saturated solution of bi-sulphite of soda in water, giving one teaspoonful every two or three hours until the system is brought fully under the influence of the drug; afterward one dose every six hours will be sufficient to maintain its effect.

D. A. SHEFFIELD, M.D.

APPLE RIVER, ILL., Aug. 30, 1883.

REVIEWS.

TRANSACTIONS OF THE MICHIGAN STATE MEDICAL SOCIETY FOR THE YEAR 1883. No. III. Vol. VIII.

This is a volume, or rather part of a volume, of 138 pages, on good paper and fair type. It contains the record of proceedings and the reports and papers presented at the annual meeting of the Society in Kalamazoo, May 9 and 10, 1883. After the record

of proceedings and the President's address, we find the following papers: "Sanguineous Tumors of the Scalp," by Dr. Wm. Brodie, of Detroit; "Clinical Notes on errors of Refraction," by Dr. C. J. Lundy, of Detroit; "Foreign Bodies in the Ear," by Dr. A. R. Smart; "Ulcers of the Cornea," by Eugene Smith; "Urethral Inflammation," by Dr. H. J. Reynolds; "Epidemic-Waves of Diphtheria," by Henry B. Baker; "Water—Its Relations to Health and Disease," by Dr. J. A. Post, and a poem "Pro Bono Professionis," by Dr. E. B. Ward. Perhaps the most important of these papers is that on "Water—Its Relations to Health and Disease." The paper contains a fair representation of the importance of attention on the part of every family and community, to the quality of the water used; points to the principal sources and ingredients of impurity, and the means of their detection, and closes with the following paragraphs:

"*To Disinfect Impure Water.* Boil thoroughly, or use a weak solution of permanganate of potash. It is contended by some that recently calcined charcoal, well pulverized, is the only substance which can, with impunity, be mingled with water in excess without communicating taste or hurtful properties. It is usually placed in layers between clean gravel through which the water is filtered. The charcoal should be renewed occasionally, as it becomes inert when saturated. If water be boiled to deprive it of infectious germs or bad odor, it should be exposed to the air for a time to absorb again a portion of oxygen and carbonic acid. It is said that a very small per cent. of salicylic acid will keep water in casks or tanks fresh and sweet for weeks.

"*Conclusions.*—If Nessler's solution gives a coloration but no precipitate, and if nitrates, nitrites, and chlorides are absent, the water is soft and fit for use. The ammonia is probably of vegetable origin.

"If Nessler's solution gives a large precipitate without color, chlorides are in excess, and nitrates, nitrites, and organic matter absent, the water is hard but fit for use.

"If ammonia, nitrites, and chlorides are present, the water is unfit for use.

"If nitrates and nitrites are present, and ammonia and chlorides absent, the water is fit for use.

"If nitrites and chlorides are both present, in excess, the water should be regarded as very suspicious, even though ammonia be absent.

"If chlorine be present to the extent of two or three grains per gallon, or upwards, the water is unfit for use."

We congratulate the Michigan State Medical Society on the early appearance of its Transactions. There are no good reasons why the Transactions of any State Medical Society should not appear in print in three months after the annual meeting, instead of six or nine, as is more commonly the case.

At Hoosick Falls, N. Y., Dr. F. R. Hudson was shot and seriously wounded last week by a man whose wife he had declined to visit.

SOCIETY PROCEEDINGS.

REPORT OF PUBLICATION COMMITTEE OF SECTION ON OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY. SESSION 1883.

The committee respectfully report, that they consider,, after careful examination of the rules laid down by the Association, in the plan of organization (page 630, vol. xxxiii, of transactions) the following papers as proper for publication in the transtions, inasmuch as said papers contain, either new facts, well devised experimental research, or complete review of subject-matter with deductions:

1. Tonsillotomy by Ecrasement, by W. C. Jarvis, N. Y.
2. Action of Nitrate of Silver on the Mucous Membrane of the Throat and Nose, by Carl Seiler, of Philadelphia, Pa.
3. A case Illustrating the Segmental Feature of Gloucoma, by Dr. H. Culbertson, of Ohio.
4. Questions on the Ætiology of Some Forms of Lenticular Opacity.
5. Nasal Disease a Frequent Cause of Asthma, by Dr. J. O. Roe, of Rochester.
6. Is Abscision a Proper Operation? Chisholm.
8. A form of Spectacles in lieu of Nose Pieces.
8. Report of cases, by Cornwell, Columbus, Ohio.

All papers read by title only, in the absence of of the author, the committee recommend to be referred back to the author, as no discussion could be had on them.

All other papers not mentioned in this report, and read before the section, the committee, in accordance with the rules quoted above, recommend to be referred back to the author, with the recommendation to publish them in any journal desired by the author, with the privilege of heading them, "Read before the Section on Ophthalmology, Otology and Laryngology, of the American Medical Association, Session 1883."

E. Williams,
L. Connor,
Carl Seiler.

MISCELLANEOUS.

Bitters.—The following official investigation and decision concerning articles called "bitters," but composed chiefly of alcoholic drink, is worthy of permanent record.—[Editor.]

Treasury Department,
Office of Internal Revenue,
Washington, Aug. 22, 1883.

Gentlemen:—Your letter of the 1st instant addressed to this office, and in which you state that, having many inquiries put to you by your customers as to whether it is necessary to take out a special license to sell your bitters, you desire to be able intelligently to inform them what they should do in the premises, and in which you also submit a statement of certain grounds upon which you think your customers should not be required to take out licenses, has been received and very carefully considered.

Your firm is understood to prepare, according to a formula the nature of which you will not disclose, the article called "Hostetter's Bitters," in very large quantities, and to sell it to dealers in all parts of the United States.

Clifford Richardson, Esq., assistant chemist of the Agricultural department, has done me the favor to make a careful analysis of a bottle of the "bitters," and finds it to contain as follows:

Absolute alcohol	32 per cent.
Water	64 per cent.
Extracts, only	4 per cent.

He says it is made from a strong alcoholic liquor flavored with various essential oils, as oil of anise, coriander, etc., and contains some vegetable bitters, such as gentian, cinchona, etc. It will be seen that the bitters contain at least 65 per cent. of proof spirits, which will be equal to about 82 per cent. of ordinary whisky at 80 per cent. proof, obviously much more spirits than is absolutely necessary to hold the other ingredients in solution.

Containing, as it does, no deleterious drugs and only 4 per cent. of anything like a drug, I should probably be entirely justified in deciding outright that one who sells it for any purpose is a retail liquor dealer within the meaning of clause four of Section 3244, Revised Statutes, which reads as follows:

"Retail dealers in liquors shall pay twenty-five dollars. Every person who sells or offers for sale, foreign or domestic distilled spirits or wines in less quantities than five wine gallons at the same time, shall be regarded as a retail dealer in liquors."

Such a ruling would seem to be supported by a letter of the honorable Assistant Secretary of the Treasury, dated January 8, 1883, as follows:

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
WASHINGTON, D. C., Jan. 8, 1883.

Sir:—This department duly received your letter dated Aug. 26 last, relating to a seizure in your district of two cases of Hostetter's Bitters imported there from Portland, Oregon.

It appears from your letter that on being requested by an officer of this department to seize the bitters, you "peremptorily refused," and thereupon that he made the seizure and delivered the merchandise into your custody, in which it now remains.

The importers claim that the bitters are a patent medicine, not a distilled spirit, nor wine, and that they, therefore, may be admitted into Alaska under the present regulations.

A letter from the Commissioner of Internal Revenue, dated Dec. 6, 1878, states that such bitters contain a sufficient quantity of alcohol to hold the other ingredients in solution, and that they are sometimes sold by the glass by retail liquor dealers; and that it is stated that the merchandise is sold "by the drink" in saloons at Sitka.

The department is of opinion that, notwithstanding they may be classified under the internal-revenue laws as medicinal bitters, they should be excluded from Alaska under the executive order of February 4, 1870, forbidding the importation of distilled spirits into that Territory.

The courts have decided that certain bitters, substantially similar in character, imported into the United States are dutiable as distilled spirits.

You will take action accordingly, and in future seize importations of such bitters into Alaska, and dispose of them in the usual manner.

The bitters already imported and in your custody, as aforesaid, may be released, provided they shall be sent out of the Territory at the expense of the claimant. Very respectfully,

H. F. FRENCH,
Assistant Secretary.

COLLECTOR OF CUSTOMS, *Sitka, Alaska.*

The last clause of Section 3246, Revised Statutes, is the only other provision of positive law bearing upon the subject. That clause is as follows:

"Nor shall any special tax be imposed upon *apothecaries* as to wines or spirituous liquors which they use exclusively in the preparation or making up of medicines."

It is, to say the very least, doubtful whether that provision in any way applies to your bitters; but inasmuch as this bureau has for many years classified the preparation as a proprietary medicine and collected stamp tax upon it as such, I cannot avoid treating the subject raised by the questions you propound in a manner somewhat different from what I probably should if the point were one of first impression.

In view of the premises, the question of whether dealers in your bitters should be required to pay special tax as liquor dealers seems to me should depend upon the use made of the article sold. If in good faith it is, in fact, sold as a medicine only by a dealer, and especially if sold to fill a *bona fide* prescription given by a reputable physician precisely as other prescriptions are given and filled, such dealer will not be required to pay the special tax, and he will, it is presumed, feel no uneasiness upon the subject so long as he is conscious that he is certainly selling it only as a medicine. On the other hand, if a dealer sells it as an alcoholic beverage, stimulant or intoxicant, and especially if he does so habitually, there is no reason why he should not be compelled to pay the special tax imposed by law upon all liquor dealers, for in such a case he is really selling it for the whisky it contains, and the other ingredients are sold only incidentally. Whether a dealer fall within one category or the other will depend upon the facts, and the revenue officers, while claiming no tax from dealers in genuine medicines, will endeavor not to be deceived by any device which may be resorted to by any dealer who may have an intent to sell it merely as an intoxicating beverage and who may wish to cover up that intent and evade the law.

As all compounders and rectifiers of spirits and all wholesale and retail liquor dealers *are* required by law to pay special taxes to the United States, it is the manifest duty of this office to see that they do so.

No mere medicine is any longer taxable in any form, but to draw the line nicely, and fix definitely where the medicine may end and the alcoholic bev-

erage begin, is a task which has often perplexed and still greatly perplexes revenue officers, and especially where a preparation contains so large a proportion of alcoholic spirits as yours does. This difficulty is not relieved in this case by the showing made by the analysis.

The medicinal or vegetable ingredients used do not appear to so predominate as certainly to give an absolute medicinal character to the preparation. Indeed, it might be concluded, without doing much violence to the probabilities of the case, that the distilled spirits are, proportionately, so large as not to be materially affected by the other mild ingredients, and that, therefore, while the preparation may, in some cases, be useful as a medicine, it may also be used very well as a mere "drink." The bitters do not present the case of a preparation like laudanum or camphor, in which, although the greater proportion of distilled spirits, yet the other ingredients are of such a powerful and predominating quality as to give character and unfit it for use as a beverage.

It is well known that various compounds, composed for the most part of alcohol or distilled spirits, are upon the markets of the country, and that they are especially adapted and probably designed for sale to the minority in those communities where so-called local-option laws prevail, or where the sale of distilled spirits is otherwise forbidden by statute. Such compounds also find purchasers among a small class who prefer to drink stimulating or intoxicating beverages under some name less unpopular than that of whisky.

These preparations usually sail into market under a medicinal flag, and while the law was such as to enable them to be taxed by stamps under a classification as proprietary medicines, the tendency or policy in this office was toward a liberal judgment in the direction of so classifying them, and especially where a formula, by which they were claimed to be made, was presented, accompanied by an affidavit that they were made according to it, and that they were designed, in good faith, to be used only as medicine. The result of such a tendency, it is true, was to get the largest amount of revenue for the Government; at the same time it gave a greatly increased salable and mercantile value to the preparation so classified. Though an inquiry was made in each case, probably it was not so strict as it should be now, since the law is changed, and since this office has information that such preparations are being extensively used in a manner different from what was stated by their makers to be designed at the outset.

It may well be that a compound can be used both as a medicine and as a beverage. When used in good faith as a medicine only, though it may contain distilled spirits, dealers in it, under such circumstances, will not be held liable to pay the special tax; but suppose it is not only capable of being used as an intoxicating beverage, but also that it is in fact sold and used as such by individuals or by a large class of a community, surely the law, as well as justice to the regular liquor dealer who pays his tax, requires that the special tax shall also be collected from those who make and from those who thus sell such compounds for such a purpose.

If Hostetter's Bitters is in any locality sold and used as an alcoholic beverage, stimulant, or intoxicant, those who thus sell it will be liable to pay the special tax. The circumstance that it is used only as a medicine in one community will not exempt from liability to tax those dealers in it in any other locality who may, in fact, sell it as an alcoholic beverage. Each case must depend upon its own facts, and hence this office cannot now lay down any other general rules than such as are stated in this letter, and in a circular recently issued from this office, No. 268, dated July 16, 1883.

A copy of the circular is enclosed, and your attention is directed to it. It was called out by numerous letters addressed to this office, and in view of the law, as I construe it to be, since the repeal of Schedule A, following Section 3437 of the Revised Statutes. That circular will be adhered to, and you will observe that while a compound is not regarded as a medicine simply because it is called so, nor unless the name and use of it as a medicine agree, still the circular advises collectors to regard as presumptively medicine those preparations heretofore paying stamp taxes as such, but that if in fact, they are now sold and used as alcoholic beverages, the presumption that they are medicines is destroyed in such instances. It may also be added that so studious was this office to avoid a duplication of the special taxation, that it also instructed collectors that where parcels of a proprietary preparation had in fact been made and, under the policy then prevailing, stamped prior to July 1, 1883, Circular No. 268 would not apply to such goods as were actually made and stamped before that date. This clause of the circular was perfectly plain, though some designing persons have attempted to misrepresent its intent and meaning.

District attorneys and collectors will, no doubt, carefully investigate the facts in each particular case, and will be able to discriminate between a case where a preparation is used only as a medicine in good faith and a case where a preparation is called a medicine because of some mercantile advantage in doing so, but which is in fact used as an intoxicating beverage.

I have been at pains to state quite at length the position of this office, and you will observe that I do not decide whether, in the abstract, your preparation is a medicine or not.

Should I hold it to be a medicine, I should probably do violence to an almost irresistible tendency of the mind to conclude that no genuine medicine needs so much whisky and so few drugs in it, unless under very unusual circumstances. On the other hand, should I decide that it is no medicine at all, I would be confronted by a ten-year' *quasi* recognition by this office to the contrary, as well as by the practice of many people who use it as such.

Since Circular No. 268 was issued I have been careful not to decide directly whether a preparation was a medicine or not, unless I had before me a report from the collector stating all the facts. Such a report I have not in this case.

My efforts will be directed to the ascertainment of the facts as to the use to which your preparation is

put, for upon the character of its use in a given case will depend the question of the liability of the dealer to pay special tax.

The courts have decided one case since Circular No. 268 was issued, viz., that of the United States vs. Frederick Cota, which was tried before Judge Withey of the western district of Michigan.

The views of the learned judge in that case were identical with those entertained by this office as to the law in the premises. A full report of the case as found in the Internal-Revenue Record is as follows:

United States District Court, Western District of Michigan, Northern Division.

UNITED STATES vs. FREDERICK COTA.

Before Hon. S. L. WITHEY, District Judge.

Information for carrying on the business of a retail liquor dealer without the payment of the special tax. Trial, July 24, 1883.

The evidence in this case showed that the defendant kept a boarding-house and had a bar where he sold cider and an article known as "Reed's gilt edge tonic," by the glass or drink, to all persons who called for the same; that the tonic was sold in considerable quantities, by the glass or drink, to persons who drank it as a beverage as other liquors are drank, and that persons became intoxicated thereby; that said tonic was generally sold at saloons and drinking places in that vicinity, and contained a large precentage of distilled spirits.

It was claimed on the part of the Government that the evidence showed that this tonic was "compound liquors," within the meaning of the *third* subdivision of Section 3244, U. S. R. S., and that the manufacturer of such compounds was liable to pay a rectifier's special tax, and that the defendant was guilty under the information for selling the same in the manner shown by the evidence.

The court charged the jury in substance, that if the article sold was a medicine and contained spirits simply to preserve its medicinal qualities and was sold and taken as a medicine in good faith, that the defendant should be acquitted. But if the jury found from the evidence that the article was a compound containing such a quantity of spirits as to be intoxicating, and was sold by the defendant as a beverage, he knowing its intoxicating quality, and was drank by persons *not* as a medicine but as a *beverage, because* of its intoxicating and stimulating qualities, then, no matter by what name it was known or called, the defendant was guilty as charged.

The jury returned a verdict of guilty, and the defendant was fined $300 and sentenced to imprisonment in the custody of the marshal for thirty days.

It is not desired to exact a dollar in taxes not fairly due, nor to claim any tax from dealers in any preparation which is fairly a medicine and in good faith used as such; but we do not doubt that all the Federal courts will hold views similar to those announced by Judge Withey, and, unless the special taxes are paid without question, I desire the courts speedily appealed to, wherever there are fair and reasonable grounds to believe that a preparation containing a large proportion of distilled spirits is sold and used as an intoxicating beverage, and not *bona fide* as a medicine.

The law is my only guide in such matters, and in such cases I regard it as requiring the payment of the tax, and I have no option but to collect it.

As to the suggestion that you should be repaid the amount you have heretofore paid the United States upon your bitters as a proprietary medicine, only a few lines need be added. There has never been any disposition on my part to enquire whether your preparation was used or sold otherwise than as a medicine previous to July 1, 1883. I have your sworn statement that it was before that date a proprietary medicine only, and you voluntarily, and from choice, had it classed as a medicine, and paid the stamp tax upon it as such, without question, up to that date. The Government took you at your word, and still does so as to everything done before July 1, 1883.

The whole question was carfully considered when Circular No. 268 was framed, and it was not doubted, either by this office or by the honorable Secretary of the Treasury, whose advice was asked upon it, that all claims for a refund of such taxes would be wholly unfounded, nor was it doubted that the makers of such compounds would be estopped from claiming such refund by their own assertions that their preparations were medicines and by their voluntary payment of the stamp tax as such.

Since July 1, 1883, if the preparations have also, in fact, been sold and used as alcoholic beverages, special taxes as liquor dealers will have to be paid by those who sell them as such, and who by doing so pervert the original purpose of their preparation, as stated under oath by the makers of them. Whatever may have been done prior to July 1, 1883, when the article was taxed as a proprietary medicine, and was, as I assume, in good faith so used, *now*, in cases where the original purpose of the preparation is perverted, and instead of being used as a medicine it is used as an alcoholic beverage or intoxicant merely, the seller of it in this manner must be treated as a liquor dealer, and taxed accordingly.

It is argued that Congress by repealing Schedule A, whereby stamp taxes were removed, meant to relieve such articles altogether from taxation. It is certainly true that Congress did repeal the law laying a tax upon *medicines, but it is equally true that Congress did not remove the tax from retail liquor dealers.* and our efforts must be directed to ascertaining whether, as a matter of fact, a dealer *bona fide* sells medicine and is exempt from tax, or sells alcoholic beverages and is liable to it, our whole difficulty arising from the fact that such preparations are susceptible of use both as a medicine and as a "drink." You can therefore see how, acting in good faith, your customers can determine, each for himself, whether there is a liability to pay special tax as liquor dealers—in other words, to "take out licenses."

When a preparation, considered with reference to its ingredients, may be one thing or another, according to its use, I will let the use give charaeter to it. If used or administered *bona fide* as a medicine, as a medicine it will be treated, but if persons ignore its medicinal properties and sell it to be drank as an in-

toxicating beverage, the act should be regarded as a retailing of spiritous liquors, and the seller made to pay the tax accordingly. This seems to me to be the true rule, *and an article containing so little that is even nominally medicinal as yours does ought and will be subject to very close scrutiny as to its use.*

Very respectfully,

WALTER EVANS,
Commissioner.

Messrs. HOSTETTER & SMITH,
Pittsburgh, Pa.

The following items of interest are clipped from the *Daily Times* of this city, just as this number of THE JOURNAL goes to press.—[ED.]

YELLOW FEVER.—SPREAD OF THE SCOURGE.

NEW ORLEANS, Sept. 6.—[Special.]—A special to *The Times-Democrat* from Pensacola announces thirteen new cases of yellow fever at the navy-yard, three of whom are colored, and seven deaths including Charles Grady, boat-keeper for the pilot boats, and two privates of the United States marines, who died at the marine hospital.

HISTORY OF THE EPIDEMIC.

A letter from Pensacola navy-yard in regard to the yellow fever has been received at Washington which says complaint is made that the navy department has been utterly indifferent to the welfare of the command and that no amount of argument on the part of anyone would have served to modify in any particular the policy of the department toward the Pensacola yard. The writer says: "We are here to stay so long as our services are required, and one and all stand ready to face the situation with strong hearts and cheerful courage. We are determined to make the best of everything and trust in Providence to carry us safely through the season of sickness. I must admit, as the summer advanced and no disease of a contagious character made its appearance, I felt encouraged and believed we were going to escape a visit of the terrible scourge. We all felt confident that for once yellow fever could not come among the force stationed here. Every attention had been given to the sanitary condition of the yard, Dr. Owen making personal inspection, and he pronounced the quarters in the most excellent sanitary condition. We believed the yard to be entirely free of fever germs, and the command in perfect health, but we were deceived.

Less than two weeks after our inspection a suspicious case of fever made its appearance in the garrison. It was on the morning of August 12 that a private in the marine corps, named Flaherty, went to the officer of his command and said he was sick. He was ordered by the doctor to go to bed. At that time the nature of the complaint was not apparent, and the sick man went to the barracks until the symptoms became more pronounced. It was, to our horror, yellow fever. The bedding was destroyed, and every precaution taken at once to kill the germs. The case proved fatal three days after. Corporal Benson was the next man taken sick, and then Private Barger, who lived only four days. Barger and Flaherty were, I am told, very abstemious men, and were exceptional in their conduct as well as careful about their health. Where or how Flaherty got the disease is a mystery to every one here. The case of Barger is even a greater mystery. After various theories had been advanced it was found that the quarters occupied by the marines were infected, and that in 1875 there were some cases of fever in these quarters. Notwithstanding the care taken to avoid the infection, the removal of the command from the marine barracks was followed by two cases of fever. There was no inconsiderable amount of anxiety on the part of the residents of the yard when they found that yellow fever had made its appearance among the marines. The marine guard was promptly quarantined, and duty of all kinds was suspended, and it was with feverish expectation that developments were awaited.

Dr. Owen was taken sick Thursday, August 16, and immediately went to his bed. This left the yard without a surgeon. Poor Owen's case was indeed a sad one. He had worked day and night until he was completely tired out and broken down. The very day he was taken sick his wife and family were to have gone north. Their plans had been arranged, and the evening train was to have carried them away. The illness of the doctor put a stop to all thought of leaving the yard. A strict quarantine was placed against the yard, and egress was at once ended. Owen was without medical treatment for two days. When it became evident that his case was assuming a very serious form, authority was requested to employ a civilian physician. Dr. Hargis, an old practitioner from Pensacola, was employed at a salary of $100 a day. Owen died on Wednesday, the 22d of August, at noon, and was buried at once.

Mrs. Owen was taken sick Thursday. She lived but a few days. The poor woman was carried to the grave at the dead hour of midnight, her little children fast asleep as the lifeless body of their mother was being borne through their room on the way to burial. A sadder, more heartbreaking occurrence than that has seldom taken place. The youngest child is an infant less than four months old; a bright, splendid boy; the other children, three in number, are left to the care of no one. Freddie, the oldest, was taken sick on the 28th of August. Paymaster Brown, who has since died, his wife, and daughter, were all sick. Lieut. Whipple was taken down with the fever on the 23rd, and was cured by Dr. Bosso (who has since died), whose treatment had been more successful than that of the regular practitioners.

There have been upward of forty cases on the reservation, the deaths numbering fifteen. I am told that early this year Dr. Owen predicted that yellow fever would make its appearance on the reservation during the summer season, for the reason that articles infected with the disease had been brought here from Pensacola. The government steam launch was simply a passenger boat for the residents of Warrington and Wolsey. It made three trips a week to Pensacola, loaded down with people. So great was the traffic, that it is understood that officers of the yard declined to use the boat, preferring to be conveyed by the army launch. Early in July, Dr. Owen

addressed a communication to the commandant of the yard, warning him of the danger of too frequent intercourse with Pensacola, and advised him to restrict the travel and reduce the frequency of the launch trips.

DR. RAUCH'S REPORT.

SPRINGFIELD, ILL., Sept. 6.—[Special.]—Dr. John H. Rauch, as executive officer of the Sanitary Council of the Mississippi Valley, in his monthly report says that during August the supervision of the river and rail inspection service by the Executive Committee of the Sanitary Council has been confined to New Orleans, Vicksburg (at Fort Adams), and Memphis (at President's Island). At New Orleans sixty-five steamboats and other river craft, with an aggregate capacity of 71,816 tons, and carrying 2,684 officers, crew and paasengers, were inspected and fully provided with the certificates of the Sanitary Council. On the Illinois Central and Louisville & Nashville railroads, at the same points, there were inspected 139 freight trains, comprising 1,911 loaded and 1,523 empty cars, together with their crews of 834 persons. At the inspection stations at Fort Adams, below Vicksburg, and on President's Island, below Memphis, an aggregate of 228 river craft, with a capacity of 224,440 tons, and carrying 15,028 persons, were inspected. These boats were found in good sanitary condition, and no suspicious illness appeared among those on board, although there were a number of cases of the malarial fevers of different forms, mainly intermittent. An aggregate of 770 ocean vessels, river craft, and freight trains, with a capacity of 893,231 tons, and carrying 27,888 officers, crew and passengers, have been inspected under the supervision of the Council since July 1, 1883. With the exception of one suspicious case in the early part of last month, in Jackson county, Mississippi, on Fort Bayou, near the coast, there has been a very unusual absence of anything like yellow fever in the area in which the inspection service is maintained. In the exceptional case alluded to, the Mississippi State Board of Health acted upon the hypothesis that the disease was yellow fever, although the diagnosis was conflicting and the weight of epinion against that conclusion. An inspector was at once put on duty in the district, the locality was placed under a quarantine of isolation for fifteen days; disinfection was resorted to, and nothing further of a suspicious nature has since developed. New Orleans has not been so free from alarm, or cause for alarm, during the corresponding months of many years as during the sixty days just closed.

NEW ORLEANS MERCHANTS.

NEW ORLEANS, Sept. 6.—[Special.]—A meeting of the Chamber of Commerce, Produce Exchange, Mechanics', Dealers', and Lumbermen's Exchange, and other commercial bodies of the city, was held to-day to consider the non-intercourse regulation of the Board of Health, which prohibits all vessels from ports where the yellow fever prevails, whether these vessels are infected or not, from coming up the river. The Board of Health met later in the evening, passing a resolution wherein they asked the Governor to repeal his non-intercourse proclamation on the 15th of the present month, and re-establish the quarantine formerly prevailing of ten days against vessels coming from Vera Cruz, Havana, and all infected ports. They recite that the summer is near gone, that the city is perfectly healthy, and that any infection or outbreak of fever here is near impossible. They believe, therefore, that a ten days' quarantine will be sufficient to protect New Orleans. As the Governor holds that he must carry out all the resolutions of the Board of Health, an order abolishing the non-intercourse system will probably be issued within a few days.

SIR SPENCER WELLS has been elected an Honorary Fellow of the Physico-Medical Society of Erlangen.

HEALTH OF CONNECTICUT.—The following report, concerning the prevalence of diseases in the principal cities of the State, has been furnished from the office of the Secretary of the Connecticut State Board of Health.—[ED.

State Board of Health Sanitary Report.—By Dr. C. W. Chamberlain, Secretary.

MORTALITY IN JULY.

	Hartford	New Haven	Meriden	Waterbury	Bridgeport	Norwich	New London	Middletown	Killingly
Total deaths	132	186	40	57	68	47	20	23	13
Monthly death rate	30	28	22	27	22	21	9	20	20
Zymotics	90	80	21	30	36	14	6	6	6
Infantile	75	110	..	..	44	..	..	9	..
Nervous diseases	12	17	7	6	2	..	..	..	1
Heart diseases	3	7	..	3	4	..	2	1	1
Scarlet fever	1	3	..	1	..	1	..	2	..
Typhoid fever	..	2	..	4	..	..	..	..	..
Typho-malarial fever	..	1	..	..	..	1	..	..	..
Malarial fever	2	2	1	..	..	..	1	..	..
Diphtheria and croup	20	4	..	..	2	..	..	..	..
Measles	2	..	..	1	..	2	..	..	..
Whooping cough	..	3	..	..	..	2	..	..	..
Infantile diarrhœa	56	64	15	20	26	7	4	3	5
Diarrhœ and dysentery	8	5	5	4	2	..	..	1	1
Consumption	3	10	2	4	7	4	2	3	1
Pneumonia and acute lung	4	5	2	..	1	..	1	..	..
Old age	3	..	1	..	..	..	..	..	..
Railroad accidents	3	..	..	..	..	..	..	..	1
Accident and violence	1	10	1	1	2	2	2	2	..
In public institutions	10	14	..	..	..	..	2	..	..

The leading type of disease during the month has been, as usual, infantile dirrhœa, which has persisted to an unusual degree, when the comparative coolness of the weather is taken into consideration. Hartford still maintains the place at the head of the column of the monthly rate proportion of zymotics and infantile deaths, although in the last report New Haven is about the same. The comparative mortality is not so much greater as in previous years, as this is always a season when a high death rate among children is expected. The persistency of diphtheria, which is so clearly a filth disease, so far as its local causation in Hartford has been traced, appears to be due to the want of traps under house fixtures, faulty plumbing, unventilated house drains, and unventilated sewers. The need of an ordinance

to fix a sanitary standard, at least, for all new tenement houses, is being emphasized every season. Diphtheria does not thus persist without a cause. If there could be an ordinance passed compelling all house drains to be ventilated, it would improve the sanitary condition of the city greatly, but if this be too radical a step the future at least can be guarded by proper provisions for all new buildings. Many cities have such regulations, and also many villages, and the results are more than commensurate to the expense and trouble involved. The mortality from infantile diarrhœa in New Haven has been very carefully investigated by Dr. Lindsley, the efficient health officer of that city. He finds that the greatest part occurs in streets that have no sewers, where cesspools and vaults store up the excrementitious filth, and thus render it possible to again reach the system through polluted air or water. To a considerable extent this is also true of Hartford.

Throughout the State, generally, about the same relative frequency of infantile diarrhœa and diarrhœa and dysentery among adults, in comparison with other diseases, is reported, as the table indicates. The greatest prevalence is in the more densely populated districts. The country is comparatively free, that is from infantile diarrhœa. There has not been as much cholera morbus, but dysentery has appeared much earlier than usual, due probably to the cold nights.

Malarial diseases are reported as unusually prevalent in places like Manchester. where they have more recently appeared, while in the places where they first appeared but little prevalence is noted, and the deaths from typhoid fever exceed those from all forms of malarial fever. Still, even in these places, there have been quite a number of cases of acute intermittent fever, which has not been noticeable here before for several years. Upon the whole, however, the malarial influence appears to be waning very decidedly, and its effect upon other types of disease less marked. The sale of quinine at the drug stores has rather decreased in comparison with that of former years, as far as I can learn. The progress into new territory is slow, but few towns report cases. Hampton, in Windham county, reports a few cases. This is one of the hill towns, with little swampy land comparatively. Several cases are reported from Watertown, Naugatuck, Monroe, Haddam, Suffield, Windham and Westport, but in general malarial diseases occupy a much less prominent place, while typhoid fever is increasing in frequency.

Diptheria has already been mentioned with reference to its persistence in Hartford. Cases are reported from Westport, one fatal, also quite a number of cases of tonsillites, which has been unusually prevalent for the season when there are usually few if any cases. South Manchester, Manchester, Plainville, Talcottville, report cases of diphtheria, and several other localities a case or two. But very few cases of scarlet fever are mentioned; one fatal case from Canaan is reported.

Whooping cough has been quite prevalent in several places. Westport, New Canaan, Monre, and Windham mention the disease, while it appears to be almost epidemic in Suffield and Greenwich. A few localities mention measles; seven cases in one family are reported; Naugatuck, Greenwich, New Canaan, Westport and Suffield, among others, report cases. Comparatively, however, the cases are very few.

In addition to the fatal railroad accidents in the table, three are reported from Plainville. Several cases of drowning are also reported.

The sanitary history of the month, while indicating plainly the loss of life from the neglect of sanitary laws, and also as a consequence a needless waste of life, and thus unfavorable, is not much worse than previous years. From such plain lessons as it gives, our power to control to a great extent the ravages of diseases that destroy many more lives than the dreaded cholera is repeatedly demonstrated.

FROM the following, taken from the *Canada Lancet*, it will be seen that our Montreal friends are not in perfect accord: "The Victoria Medical School, Montreal, which is in affiliation with Victoria College, Cobourg, has been in successful operation for several years, but a strong rivalry prevailed between her and the Laval University medical school. Instructions were issued by the authorities of the church that Laval should be supported. The professors and students of Victoria continued to act contrary to the spirit of the official declaration. An order was then issued to the Sisters of Hotel Dieu to refuse admission to all professors and students, except those of Laval. The Sisters appealed to Rome, and the professors to a committee of provincial bishops. The latter have decided that no Catholic can conscientiously form part of Victoria School or attend lectures there, and those who do so cannot be admitted to the sacrament of the church, and the former have been again ordered to close their doors to professors and students of Victoria. This mandate effectually disposes of the Victoria School of Medicine, which is much to be regretted, as the school was doing a good work, and was, besides, a means of stimulating healthy rivalry in medical teaching. Just as we go to press we learn that a cablegram has been received from the Pope, ordering the Victoria school to be carried on as usual for the present."

AT the semi-centennial celebration of the McGill Medical College, Montreal, in October last, a gentleman offered $50,000 if, by August 1st, 1883, an equal sum was raised, in commemoration of the late Dean, Dr. G. W. Campbell. This has been done, and Hon. D. A. Smith has given to Dr. Howard a check for $50,000, to be known as the Leanchoil endowment. Mr. George Stephenson has given $50,000 to the General Hospital for a memorial wing to Dr. Campbell.—*Medical News.*

WE learn from news in the daily press that the date of expiration of the term of the Surgeon General of the Navy is in dispute. In 1879 there was a vacancy in the office, and on August 1st Medical Inspector Wales was appointed to the place, but did not receive his commission until January 20th, 1880. The office is held for four years. His appointment was at that

time much opposed by several surgeons who were Dr. Wales's seniors in rank. It is now claimed by them that his term of office expired August 1st, and Dr. Wales claims that it does not until January 20. The question may be submittcd to the Attorney General for his opinion.

OFFICIAL LIST OF CHANGES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM ———, 1883, TO AUGUST 31, 1883:

Clements, Bennett A., major and surgeon; relieved from duty with the Army Medical Examining Board, New York City, N. Y. (par 11, S. O. 193, A. G. O., August 22, 1883).

Kimball, James P., captain and assistant surgeon; relieved from duty in Department of the Platte, and to proceed to New York City and report in person to the President of the Army Medical Examining Board for duty as a member of that Board, *vice* Surgeon Clements, relieved (par. 11, S. O. 193, A. G. O., August 22, 1883).

NECROLOGICAL.

EMMONS LEWIS, M.D., was born at Woodstock, Vt., May 22, 1804. He died at Hartland, Vt., Aug. 13, 1878.

He was the youngest son of Solomon and Prudence Taft Emmons, being one of nine children, five sons and four daughters. He studied medicine with the distinguished Dr. Gallup, of Woodstock, graduated from Dartmouth Medical College in 1830.

He settled in practice in Shipton, Canada, where he remained until 1837. While there he learned the French language to speak it fluently. Upon his return to Vermont in 1837, he married Miss Jane Sylvester, of Woodstock, and settled in medical practice at Hartland, where he remained until his death. About twenty years after marriage, his wife died of cancer ot the stomach. In December, 1857, he was married again to Miss Melinda Hendrick, of Hartland, who survives him. He had no children. He was a prominent man in his county, represented his town in the Legislature in 1866 and 1867. He was a man of energy, of literary tastes and good social qualities, a member of the Congregational church, and a Christian gentleman.

O. F. FASSETT, M.D., of Vermont.

DU HAMEL, WILLIAM JAMES CHAMBERLIN, M.D., of Washington, D. C. Was born in Maryland, January 18, 1827; died of apoplexy at his residence, 338 Indiana avenue, August 15, 1883. He was on his father's side of French descent. His grandfather, Baron Du Hamel, was a surgeon with the French army co-operating with General Washington in the war of the American Revolution, and was at the surrender at Yorktown. The French surgeon married and settled in Maryland, where he practiced his profession and became a successful planter.

The subject of this sketch was educated at St. Mary's Seminary, in Baltimore, and received his M.D. degree from the University of Maryland in 1849. Shortly after this he removed to Washington, where he practiced his profession with success and reputation until about 1869, when he removed to the city of Baltimore, where he became actively engaged in general practice for a few years, when he returned to Washington, but did not again enter actively into practice.

Dr. Du Hamel became a member of the Medical Society of the District of Columbia in January, 1853, and of the Medical Association of the District the same year. The Doctor was sent a delegate to the American Medical Association in 1853, attended subsequent meetings from Washington in 1855, 1858, 1864, 1866, 1868, and 1869, and from Baltimore in 1870 and 1872. He was also a member of the old Pathological Society of Washington, organized in 1852. Dr. Du Hamel had a fondness for scientific inquiry, and was a member of quite a number of societies engaged in prosecuting inquiries in special directions. The Doctor married, shortly after settling in Washington, a widow lady of culture and means, and always enjoyed a good social position, to which his tastes and gentlemanly bearing entitled him. He leaves a widow and four children, with a fair competence and the inheritance of an honorable name. J. M. T.

GILMAN, JUDSON, M.D., of Baltimore, Md. Was born in Meredith, N. H., December 22, 1818; died at his residence, in the city of Baltimore, August 1, 1883. He was a descendant of Edward, the progenitor of all the Gilmans in this city, and came from Hingham, England, in 1638. The family is numerous and influential throughout the New England States. He was educated at Roxbury, Mass., and graduated in letters at Colby University, Waterville, Me. His medical degree was taken after full course of lectures at the University of Maryland, in 1845. Immediately after he began practice in Baltimore, and gradually acquired a good, remunerative business.

In 1853 he joined the Medical and Chirurgical Faculty of Maryland, an organization in which he was greatly interested, and by which he was honored with various official positions. He entered the military service as surgeon of the Fifth Maryland regiment early in the late war. He was disabled from duty in 1863. After this he was acting assistant surgeon in the hospitals at Point Lookout from October, 1863, to the close of the war.

In June, 1845, Dr. Gilman was united in marriage to Mary A. Willis, who survives him. They had no children. From 1850 to 1860, excepting 1855 and 1856, he was Secretary and Assistant Commissioner of Health for the city of Baltimore. In 1866 he was State Inspector of Guano. He was a member of the different medical organizations of the city and county of Baltimore, and of the American Medical Association since 1855, and attended seven meetings, the last time in 1880 in the city of New York. He was also an active member of the Maryland Historical Society. He did much to revive an interest in the library of the Medical and Chirurgical Faculty of Maryland, which is now growing to be an iinstituton in which the profession not only of the city of Baltimore but of the State may be proud. J. M. T.